Foreground

This document is a reformatted version of the document published by Russell Ackoff in volume 17 of the magazine "Management Science", in July 1971.

The reformatting aims at providing web pointers to the content of the document. Concepts defined in enterprise architecture and management framework published by SysFeat make use of these web pointers to reference Russell Ackoff definitions.

Some annotations (in blue text boxes) have also been added to highlight refinements made in “On Purposeful Systems” as well as improvements that we have gathered in our own research.

For more details concerning the work of Russell Ackoff, the Ackoff Center Weblog (blogs.com) is a remarkable wealth of information

Antoine Lonjon.

August, 2025

A SYSTEMIC VIEW OF TRANSFORMATIONAL LEADERSHIP by Russell L. Ackoff

INTRODUCTION

In the recent past I have been asked several times: What do systems thinkers think about leadership? I don't know what they think about it because I haven't asked them. In fact, I didn't even know what I thought about it. But the repeated question pushed me into answering the question for myself.

Like many other systems thinkers I have had to sit through what feels like endless sessions discussing leadership and how to create leaders. I have found them vacuous and a terrible bore. Therefore, to think about it substantively and in a nonboring way is a challenge, one I take up here.

I have scanned the large and growing literature dealing with leadership without finding inspiration in it. Nor have I found any evidence of an increase in either the quantity or quality of leaders produced, particularly transformational leaders. My superficial survey convinced me that to a large extent the sterility of this literature is due to the ambiguity associated with the concepts of leadership and transformation.

ADMINISTRATION, MANAGEMENT, AND LEADERSHIP

These terms are often used interchangeably. What a waste! There are important differences they can be used to reveal. Therefore, I have defined them in a way that is directed at improving leadership and bringing about more significant organizational transformations.

> ***Administration*** consists of directing others in carrying out the will of a third party, using means selected by the same party.
>
> ***Management*** consists of directing others in the pursuit of ends using means both of which have been selected by the manager. *(Executives* are managers who manage other managers.)
>
> ***Leadership*** consists of guiding, encouraging and facilitating the pursuit by others of ends using means, both of which they have either selected, or the selection of which they approve.

In this formulation, leadership requires an ability to bring the will of followers into consonance with that of the leader so they follow him or her *voluntarily,* with enthusiasm and dedication. Such voluntarism, enthusiasm, and dedication are not necessarily involved in either management or administration.

LEADERSHIP IS PRIMARILY AN AESTHETIC FUNCTION

Leadership has been poorly understood largely because it is primarily an *aesthetic* function and aesthetics are also poorly understood. It is one of the four aspects of development identified by Ancient Greek philosophers each of which is separately necessary but all of which, taken together, are sufficient for continuous development. These are the pursuits of *truth, plenty,* the *good, and beauty/fun (aesthetics).*

> ***Truth***. The pursuit of truth is the societal function of science. Technology is the application of science and education is the principal means used by society to disseminate the output of science and technology. Together they enable people to pursue their ends more efficiently.
>
> ***Plenty***. The pursuit of plenty is a function of institutions that are concerned with (1) producing and distributing the resources that make possible the pursuit of ends as efficiently as possible (for example, economic enterprises), and (2) protecting the resources acquired against their appropriation, theft, or destruction by others or nature (for example, the justice system, the health system, environmental protection, the military, and insurance).
>
> *The* ***Good***. The pursuit of the good involves the dissemination of ethical and moral principles. This is carried out by religious and educational institutions, and more recently the field of psychiatry. It entails promoting cooperation to enable the attainment of more objectives than could otherwise be obtained. This, in turn, requires eliminating conflict within individuals (peace of mind) and between individuals (peace on Earth) because conflict limits the number of objectives that can be obtained.
>
> ***Beauty/Fun***. The pursuits of beauty and fun are inseparable aspects of aesthetics. Together they make possible the continuous pursuit of ideals, ends that can be approached indefinitely but never attained.

The role of aesthetics is not as well understood in our culture as are the roles of science, technology, education and economics, or even as well as ethics-morality. *Management science, management technology, management education,* and *management ethics* have at least some meaning for most. On the other hand, the *aesthetics of management* conveys meaning to very few.

Science, technology, and economics focus on *efficiency,* but not *effectiveness.* The difference between efficiency and effectiveness is important to an understanding of transformational leadership. Efficiency is a measure of how well resources are used to achieve ends; it is value-free. Effectiveness is efficiency weighted by the values of the ends achieved; it is value-full. For example, a men's' clothing manufacturer may efficiently turn out suits that do not fit well. Another less efficient manufacturer may turn out suits that do fit well. Because “fit” is a value to customers, the second manufacturer would be considered to be the more effective even though less efficient than the first. Of course, a manufacturer can be both efficient and effective.

Put another way: efficiency is a matter of doing things right; effectiveness is a matter of doing the right things. For example, the more efficient our automobiles have become, the more of them are on city streets. The more of them on city streets, the more congestion there is. The efficiency of an act can be determined *without* reference to those affected by it. Not so for effectiveness. It is necessarily personal. The value of an act may be, and usually is, quite different for different individuals. The difference between efficiency and effectiveness is also reflected in the difference between *growth* and *development,* and development is of greater concern to a transformational leader than growth.

GROWTH AND DEVELOPMENT

Growth *is an increase in size or number;* ***development*** *is an increase in competence.* Standard of living is an index of growth, but quality of life is an index of development. Either growth or development can occur without the other. Rubbish heaps grow but do not develop. Professors can develop without growing. Growth does not necessarily involve an increase in value; development does. A company can grow without increasing its value but it cannot develop without doing so.

Values are the concern of ethics and aesthetics. Therefore, they are necessarily involved in the conversion of efficiency into effectiveness. The production of data, information, knowledge, and understanding are primarily functions of science. The production of *wisdom,* which presupposes all four, is primarily a function of ethics and aesthetics because it involves the conscious insertion of values into human decision making and evaluation of its outcomes.

Wisdom. Effectiveness is a product of wisdom which enlarges both the range of consequences considered in making a decision and the length of time over which the decision is believed to have possible consequences. By taking long- as well as shortrun consequences into account, wisdom prevents sacrificing the future for the present. For example, our technology enables us to keep terminally ill people alive at great cost. But is this the right thing to do in the long run? Is it wise? Might the same resources be better used elsewhere?

Wisdom is required for the effective pursuit of ideals, and therefore is required of leadership. Leaders must also have a *creative* and *recreative* role in the pursuit of ideals, and these are aesthetic functions.

AESTHETICS

In *The Republic,* Plato wrote that art was a potentially dangerous stimulant that threatens the stability of a society. Aristotle's conception of art was very different from Plato's. While Plato saw art as a stimulator of disruptive changes; Aristotle saw it as cathartic, a palliative for dissatisfaction, hence a producer of stability and contentment.

He saw art as something from which one extracts satisfaction here and now; as *recreation.*

These apparently contradictory views of art are actually complementary: they are two inseparable aspects of ideal-pursuit. Art *inspires,* produces an unwillingness to settle for what we have and a desire for something better. It is the product and producer of creative activity, change; it is essential for continuous development. Art also entertains, recreates, yielding fun from what we do regardless of what we do it for. It is the satisfaction we derive from "going there" in contrast to the satisfaction derived from "getting there". Recreation provides "the pause that refreshes". It recreates creators. We would not be able to maintain continuous pursuit of ideals without payoffs along the way. Now, how does all this relate to leadership?

LEADERSHIP, VISIONS, AND STRATEGIES

According to Jan Carlzon (1987), who provided SAS Airlines with transformational leadership, a leader must encourage and facilitate formulation of an organizational vision in which as many stakeholders as possible have participated. He must create

> *an environment in which employees can accept and execute their responsibilities with confidence and finesse. He must communicate with his employees, imparting the company's vision and listening to what they need to make that vision a reality. To succeed...he must be a visionary, a strategist, an informer, a teacher, and an inspirer. (p.5, italics mine).*

My concept of a vision is a description of a state that is considered to be significantly more desirable than the current state It is a state that cannot be approached without a fundamental change of direction, a change of the *status quo.* It takes courage to lead such a change and it requires instilling courage in others. This involves more than persuasion; it requires the ability to *inspire.* Unlike persuasion, inspiration evokes a willingness to make sacrifices in the pursuit of long-run objectives or ideals. Therefore, visions that induce others to pursue them must be *inspiring.* An inspiring vision is the product of a creative act, of *design.* Inspiring visions are works of art and those who formulate them are artists.

Leadership also requires the ability to implement pursuit of the vision. Inspiration without implementation is provocation, not leadership. Implementation without inspiration is management or administration, not leadership. Therefore, leaders must be both creative, in order to inspire, and courageous, in order to induce implementation.

An inspiring, courage-evoking vision requires a mobilizing idea, an idea that need not appear to be realizable.

> *... man has been able to grow enthusiastic over his vision of...unconvincing enterprises. He had put himself to work for the sake of an idea, seeking by magnificent exertions to arrive at the incredible. And in the end, he has arrived there. (Jose Ortega y Gasset, 1966, p. 1)*

Visions may consist of either positive or negative images. Positive images incorporate something that we do not have but want, for example, law and order, a clean and healthy environment and peace. Negative images incorporate something that we have but do not want, for example, crime, poverty, a disease or an enemy.

Negative images are much easier to formulate and more easily mobilize people. However, they are often counterproductive, resulting in outcomes that are less desirable than the one we are trying to get rid of. For example, when the United States tried to get rid of alcoholism by prohibition, it neither got rid of alcoholism nor alcohol but got organized crime. We try to get rid of criminals by incarcerating them despite the fact that studies have shown that the likelihood of a crime being committed by those released from prison is higher than that of criminals who have not been imprisoned.

VISIONS AS IDEALIZED DESIGNS

Positive visions that can mobilize transformations can be produced by *idealized design.* In this process those who formulate the vision begin by assuming that the system being redesigned was completely destroyed last night, but its environment remains exactly as it was. Then they try to design that system with which they would replace the existing system *right now* if they were free to replace it with any system they wanted.

The basis for this process lies in the answer to two questions. First, if one does not know what one would do if one could do whatever one wanted without constraint, how can one possibly know what to do when there are constraints? Second, if one does not know what one wants *right now* how can one possibly know what they will want in the future?

An idealized redesign is subject to two constraints and one design principle:

technological feasibility and *operational viability,* and it is required to be able to learn and adapt rapidly and effectively. Technological feasibility means that the design only incorporates technology known to be feasible. This does not preclude new uses of available technology. This constraint is intended to prevent the design from becoming a work of science fiction. Operational viability means that the system should be designed so as to be capable of surviving in the current environment *if* it came into existence, but it need not be capable of doing so.

The product of an idealized design is *not* an ideal system, and therefore, not utopian, because it is subject to continuous improvement. The design produced is the best *idealseeking system* that its designers can currently conceive. (They should be able to conceive of a better one in the future by realizing the design objective of rapid and effective learning.)

Summarizing this much, then, a transformational leader is one who can formulate or facilitate the formulation of an inspiring vision of something to be sought even if it is unattainable, although it must at least be approachable without limit. The leader must also be able to encourage and facilitate (inspire) pursuit of the vision, by invoking the courage required to do so even when short-term sacrifices are required, by making that pursuit satisfying, fun as well as fulfilling.

WHY LEADERSHIP CANNOT BE TAUGHT

Teaching, and therefore courses, cannot produce great leaders precisely because leadership is essentially an aesthetic activity. The most schools can do is provide some of the tools and techniques usable in creative work but they cannot create creativity. One can be taught to draw, sculpt, compose and write better than one would otherwise, but one cannot be taught to do so creatively with excellence.

Students are taught to seek solutions that their teachers expect; student success depends on it. This even carries over to corporate managers who, when presented with a problem, want to know what kind of solution their bosses expect. This approach precludes creativity because creativity is the production of solutions that are *not* expected. Transformational leaders are driven by ideas, not by the expectations of others. They are skillful at beating the system, not surrendering to it.

UNDERSTANDING SYSTEMS

A transformational leader must understand the nature of a system such as a corporation, school, hospital, church, government, or United Nations, and how transformation of a system differs from a transition. For me:

> *A system is a whole defined by one or more functions, that consists of two or more essential parts that satisfy the following conditions: (1) each of these parts can affect the behavior or properties of the whole; (2) none of these parts has an independent effect on the whole; the way an essential part affects the whole depends on what other parts are doing; and (3) every possible subset of the essential parts can affect the behavior or properties of the whole but none can do so independently of the others.*

Therefore, a system is a functioning whole that cannot be divided into independent parts and be effective.

CLASSIFYING SYSTEMS

There are obviously different ways of classifying systems. The choice of a classification scheme should depend on its intended use. For my purpose here - making clear what a transformation of a system is - the critical classifying variable is *purpose* and purpose is a matter of *choice.*

An entity is **purposeful** if,

(1) It can produce the same functionally defined outcome in different ways in the same environment; for example, a person who can reach a destination by driving, using public transportation, or walking.

(2) it can produce functionally different outcomes in the same and different environments; for example, a person who can read in different environments and can write or converse in any of the environments in which it can read.

Although the ability to make choices is necessary for purposefulness, it is not sufficient. An entity that can behave differently but produce only one outcome in anyone

of a set of different environments is *goal-seeking,* not purposeful. Control mechanisms - for example, a thermostat - are goal-seeking. In contrast, people are obviously purposeful systems, and so are certain types of social groups.

Types of Systems

There are four basic types of systems:

1. ***Deterministic****:* systems in which neither the parts nor the whole are purposeful.
2. ***Animated*** **systems** in which the whole is purposeful but the parts are not.
3. ***Social****:* systems in which both the parts and the whole are purposeful.
4. ***Ecological*** **systems** in which some of the parts have purposes but not the whole.

These four types of system form a hierarchy in the following sense: animated systems have deterministic systems as their parts; for example, various human organs operate as mechanisms. In addition, animate systems such as people can create and use deterministic systems such as clocks and automobiles, but not vice versa. Social systems have animated systems (people) as their parts. All three types of system are contained in *ecological: systems,* some of whose parts are purposeful but not the whole. For example, Earth is an ecological system that has no purpose of its own but contains social, animate and deterministic systems.

The Business Enterprise as a Deterministic System

Business enterprises were initially thought of as machines created by their gods, the owners, to do their work. Enterprises, like all machines, were taken to have no purpose of their own, but were believed to have only the function of serving their owners' purposes. The owners' principal purpose was taken to be to obtain an adequate return on their investment of time, money, and effort. This required that enterprises make a profit. Making a profit came to be thought of as the only legitimate function of an enterprise, a belief still held by many, and far from dead as reflected in the writing of Milton Friedman (1970):

> *...there is one and only one social responsibility of business-to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game… (p. 125)*

This point of view is far from dead.

Owners of early enterprises had the power to run their businesses with virtually no constraints. They were god-like in the small worlds they had created. Although employees were known to be human, their personal interests and purposes were irrelevant to their employers. Workers were retained only as long as they were ready, willing, and able to do what the owners wanted. When they no longer were, they were discarded and replaced, like replaceable machine parts, by others who were compliant and usable.

In the early days of industrialization the work done by most employees required little or no skill, and unskilled labor was plentiful. In general, this work force had little

education and, therefore, relatively low levels of aspiration. Many were immigrants with only a very limited knowledge of English. They aspired more for their children than for themselves. For most workers, employment was necessary for survival; unemployment meant economic destitution. At that time there was no social security, no unemployment insurance or welfare, and the average compensation of workers was not large enough to enable them to insure themselves against unemployment. Little wonder, then, that many were willing to work under almost any conditions; they had to.

By the end of World War I, the mechanistic conception was largely replaced by one that was biological, organismic. There were a number of reasons for this transformation. The levels of worker education and aspiration had increased largely as a consequence of compulsory public education. Government began to regulate working conditions thereby reducing the power of the owners and protecting at least the health and safety of members of the work force. Unions emerged, improving the conditions of work, work itself, compensation for it, and job security. All this made the owners less god-like.

However, the most important reason for the transformation from the mechanistic to the organismic conception of enterprises was that, even by reinvesting all their profits in growth, their owners could not exploit all the opportunities for growth. In addition, the increased technology of production required increased amounts of investment in facilities and equipment. Therefore, to unleash growth and productivity, many owners had to raise additional capital by selling stock. This required most of them to relinquish at least some control over the enterprises they had created. The survival and growth rates of the enterprises that raised investment capital by "going public" were much greater than of those whose owners elected to retain control and constrain growth.

When an enterprise went public, its god disappeared. Stockholders were numerous, dispersed, anonymous, and unreachable by members of the work force. Some of the larger corporations acquired more than a million shareholders. Therefore, God disappeared; ownership became an abstraction. How was communication with this abstraction to be obtained? There was a precedent; nineteen hundred years earlier, a western God had disappeared and became an abstract spirit with whom ordinary men could not communicate directly. An institution and a profession - the church and its clergy - were created to bridge the gap. Similarly, as the nineteenth century drew to a close, management (the church) and managers (the clergy) were created to control enterprises in the alleged interests of their owners, and to discern and communicate their will to the employees. Managers came to know the will of the shareholders in the same way the clergy claimed to know the will of God, by revelation.

The principal effect of the dispersion of "ownership" was to give effective control of enterprises to their managers. James Burnham (1941) referred to this as a "*managerial revolution*". He argued that enterprises were now run by managers primarily for their own benefit, not the owners. Profit came to be thought of as a means, not an end. Like oxygen for a human being, profit was thought of as a means necessary for the survival and growth of the enterprise, not the reason for it. At the turn of the century, the American humorist

Ambrose Bierce (1967) caught the spirit of this change of perspective in his definition of 'money': "*A blessing that is of no advantage to us excepting when we part with it (p. 226)”*.

THE ENTERPRISE AS AN ANIMATED ORGANISM

Like all biological entities, the enterprise was considered to have survival as a purpose of its own. Growth was believed to be essential for it. The opposite of growth, contraction, was slow death. Publicly owned enterprises came to be called “corporations”. This word derives from the Latin word 'corpus’, meaning 'body’, (Organisms have bodies, machines do not.) Moreover, in the eyes of the law, the corporation was endowed with the status of a biological individual. In 1886 the Supreme Court ruled for the first time that a corporation should be construed as a person (Mouzelis, 1974, p. 183). Biological metaphors invaded organizational thinking. The chief executive was called "the head" of the organization. Other biological concepts were applied to enterprises; for example, viable, healthy, sick, paralyzed, energetic, and survival of the fittest. Such concepts are still commonly used.

Because of continuing advances in mechanization, the skills required of workers continued to increase. Those who had the required skills were not as plentiful as those who didn't. It was costly to replace skilled workers; expensive training was frequently involved. As a result, they were treated more like difficult-to-replace organs than easily replaceable machine parts. Employee health and safety received increasing attention from both unions and government. However relevant were the functions of workers, their personal interests and purposes were not an appropriate concern of their employers.

Expansion of social security and increases of personal savings (resulting from increased compensation for work) reduced the connection between economic destitution and unemployment. Furthermore, unions negotiated increased job security. These developments encouraged dissatisfied employees to protest against what they considered to be unfair labor practices and bad working conditions. Management and labor came to see themselves as irrevocably opposed to the other, much as many philosophers took mind and body to be.

Although the biological view of the enterprise still prevails, it has eroded significantly since World War II. At that time, a major portion of the work force was drafted into military service. Nevertheless, demands for production were very great. Young people, the elderly, and especially women were drawn into the work force. (Recall Rosie the Riveter and Tillie the Toiler.) These replacements for drafted workers were motivated more by patriotism than by the need for money. Many were supported by allowances given by the government to dependents of servicemen. Managers who wanted high productivity from members of this patriotically motivated work force could not obtain it by treating them as replaceable machine parts or even as functioning organs; they had to be treated as human beings with purposes of their own. Even managers had to be treated differently because they began to behave differently. As E. E. Jennings (1971) observed:

> *Then came World War II…and innovation was needed at all levels; no one person could possibly know enough to maintain corporate viability.*

Corporations began placing their chips on young men not yet mesmerized by the loyalty ethic...

Young executives grew self-confident that they could manage their own careers... When they saw upward mobility arrested, they opted for opportunities elsewhere....

The most mobile had the best chance to achieve and acquire experience; mobility bred competency that in turn bred mobility. Rapid executive turnover became a fact of life. (p. 29)

Ex-GIs returning to civilian work wanted to be treated as unique individuals with needs and desires of their own. This was reflected in the permissive way they raised their children. As a result, the post-World-War-II “baby boomers” were even less inclined than their parents to tolerate authoritarian management. Most members of the permissive "Spock" generation had not experienced a depression, and therefore, economic destitution was an abstraction to them, but job mobility was concrete and real. Furthermore, they did not attribute as much importance to material possessions as their parents had. They did not adopt the Protestant work ethic and they did not consider work to be an inherently good thing. Rather, they thought of work as a necessary evil or a means to an end. Recall the hippies of the 1960s and 70s.

Workers of the permissive generation expected their interests to be taken into account by their employing organizations. As many managers failed to do so, alienation from work became widespread. According to a report submitted to the Secretary of Health, Education, and Welfare in 1973:

...significant numbers of American workers are dissatisfied with the quality of their working lives. Dull, repetitive, seemingly meaningless tasks, offering little challenge or autonomy, are causing discontent among workers at all occupational levels. This is not so much because work itself had greatly changed; indeed, one of the main problems is that work has not changed fast enough to keep up with the widespread changes in worker attitudes, aspirations, and values. A general increase in their educational and economic status has placed many American workers in a position where having an interesting job is now as important as a job that pays well. Pay is still important: it must support an "adequate" standard of living and be perceivable as equitable - but high pay alone will not lead to job (or life) satisfaction. (pp. xv-xvi)

Protest groups, outside as well as inside corporations, proliferated. Consumerists and environmentalists felt that they were being adversely affected by organizations of which they were not a part. These groups held corporations responsible for their allegedly harmful effects on society, its members, and the environment. This contributed to bringing about a transformation in the way people thought of an enterprise; they began to think of it as a social system.

THE ENTERPRISE AS A SOCIAL SYSTEM

Because of internally and externally applied pressures, corporate managers became aware of the need to take into account the concerns, interests, and objectives of (1) the people who were part of the systems they managed and (2) the larger systems that contained them-for example, society-and other systems and individuals who were parts of the same containing systems. In addition, these managers obviously had to be concerned (3) with the purposes of the organizations they managed. This preoccupation with the purposes of parts and containing wholes made it increasingly difficult for managers to think of their organizations as either mechanical or biological systems. They began to think of them as systems in which people individually and collectively played the major roles.

This social systemic view maintains that executives have duties beyond maximizing value for shareholders. For example, Hicks B. Waldron, chairman of Avon Products Inc. wrote:

> *We have 40,000 employees and 1.3 million representatives around the world.... "We have a number of suppliers, institutions, customers, communities. None of them have the same democratic freedom as shareholders do to buy or sell their shares. They have much deeper and much more important stakes in our company than our shareholders." (Hoerr and Collingwood, 1987, p. 103).*

A SYSTEMIC TRANSFORMATION

A system is transformed when the type of system it is thought to be is changed; for example, from a deterministic or animate system to a social system. As such it is a part of, and responsible for, the ecological systems that contain it. Therefore, a transformational leader is one who can produce, or encourage and facilitate the production of, a mobilizing vision of a transformed system. Equally important, the leader must be able to inspire and organize or have organized an effective pursuit of that vision and maintain it even when sacrifices are required.

The transformation to a social-systemically conceptualized and managed corporation requires a number of fundamental changes including the following: First, because most employees in corporations today can do their jobs better than their bosses can, the traditional notion of supervision must be altered. Instead, their bosses have a responsibility for creating working conditions under which their subordinates function as well as they know how. This requires that their subordinates have a great deal more freedom to work as they want than they have had up to now.

Second, leaders have an obligation to enable their subordinates to do better tomorrow than the best they can do today; that is, to provide them with opportunities for continuous development through on- and off-the-job education and training.

Third, managers should manage **the interactions (not the actions)** of their subordinates and the unit managed with other internal and external units so as to maximize their contribution to the organization as a whole.

Note:

The focus on interactions instead of actions is a move from a procedural view of the business to a system view of the business.

These three requirements are best met in a democratic corporation (Ackoff, 1994, Chapter 4), one in which (1) all stakeholders can participate directly or indirectly (through elected representatives) in making decisions that affect them, and (2) in which everyone with authority over others individually is subject to their collective authority. Without the support of his/her subordinates, peers and superiors, no one can manage effectively.

Fourth, internal units that supply products or provide service to other internal units must be as efficient and responsive as possible to those they serve. This can only be done by making these internal sources compete against external sources of supply or service; that is, to operate within an internal market economy (Ackoff, 1994, Chapter 5). This precludes both internal bureaucratic monopolies and the need for benchmarking. It also eliminates the generation of "make work" and the excess personnel associated with it which has led to downsizing.

Fifth, the organization's structure should be such that it is ready, willing, and able to change rapidly and effectively. Traditional tree-like hierarchies cannot do this. Several alternatives that can come closer to providing the flexibility required including networks, and horizontal, matrix and multidimensional organizations (Ackoff, 1994, Chapter 6).

Finally, the organization must be capable of rapid learning and adaptation. All learning derives from experience, our own and others'. Mistakes are the ultimate source of learning which occurs when they are identified, diagnosed and corrected. Facilitation of these processes requires creation of a learning-adaptation support system, one that identifies early errors in expectations, assumptions, and predictions and corrects strategies, tactics and operations appropriately. Learning effectively from others requires creation of a culture in which constructive conversation and discussion is continuous.

The transformation of a corporation from an organismic to a social system is only one kind of transformation through which it can be put. However, in the current environment - characterized by an increasing rate of change, interdependence, complexity, production and dependence on knowledge and information, global competition, and so on - there is no other type of transformation that can bring about the necessary focus on employees, customers, and the other corporate stakeholders. A corporation that fails to see itself as an instrument of all its stakeholders will probably fail to use, and be used by, them effectively enough to survive in the new environment.

REFERENCES

Ackoff, R L. (1994). *The Democratic Corporation.* New York: Oxford University Press.

Bierce, A. (1967). *The Enlarged Devil's Dictionary.* Harmondsworth, Middlesex, England: Penguin Books.

Burnham, J. (1941). *The Managerial Revolution.* New York: John Day Co.

Carlzon, J. (1987). *Moments of Truth.* Cambridge, MA: Ballinger Publishing Co.

Friedman, M. J. (1970, Sept. 13). The social responsibility of business is to increase its profits. *The New York Times Magazine,* p. 32f.

Hoerr, J., & and Collingwood, H. (1987, May 18). The battle for corporate control. *Business Week,* pp. 102-107.

Jennings, E. E. (1971). The world of the executive. *TWA Ambassador, 4*, 28-30.

Mouzelis, N. O. (1974). *Bureaucracy.* The New Encyclopedia Britannica, 15th Edition, Macropaedia, Vol. 3.

Ortega y Gasset, J. (1956). *Mission of the University.* New York: W.W. Norton & Co.

Work in America: Report of a *Special Task Force to the Secretary of Health, Education, and Welfare.* (1973). Cambridge, MA: The MIT Press.

TABLE 1 : TYPES OF SYSTEMS

Type of System	Parts	Whole
Deterministic	Not Purposeful	Not Purposeful
Animated	Not Purposeful	Purposeful
Social	Purposeful	Purposeful
Ecological	Purposeful	Not Purposeful

INDEX

A
Administration
Pages: 5, 15,
AnimatedSystem
Pages: 12, 15,
D
DeterministicSystem
Pages: 12, 15,
Development
Pages: 3, 4, 15,
E
EcologicalSystem
Pages: 12, 15,
G
Growth
Pages: 4, 9, 15,
L
Leadership
Pages: 2, 3, 5, 15,
M
Management
Pages: 5, 15,
P
Purposeful
Pages: 8, 15,
S
SocialSystem
Pages: 8, 11, 12, 13, 15,
W
Wisdom
Pages: 4, 15,