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**A dynamic model of systems change: The interaction between
forces for change and forces for stability**

Weaver, Richard G., Ph.D.

The Fielding Institute, 1993

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300 N. Zeeb Rd.
Ann Arbor, MI 48106



**A DYNAMIC MODEL OF SYSTEMS CHANGE:
THE INTERACTION BETWEEN
FORCES FOR CHANGE AND FORCES FOR STABILITY**

A dissertation submitted

by

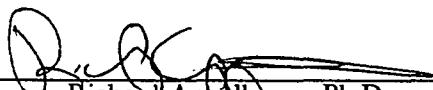
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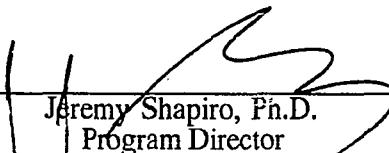
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the requirement for the degree of

Doctor of Philosophy in
Human and Organizational Systems

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accepted for the faculty of
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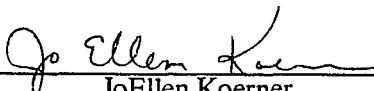
Richard Appelbaum, Ph.D.
Chair



Jeremy Shapiro, Ph.D.
Program Director



Barbara Mink, Ed.D.
Second Faculty Member



JoEllen Koerner
Student Member

ABSTRACT

A Dynamic Model of Systems Change: The Interaction Between the Forces for Change and the Forces for Stability

by

Richard G. Weaver

The creation of a generic model to describe change processes in human systems was the purpose of this theoretical dissertation. The core of the dynamic model of systems change is a synergistic union of Ilya Prigogine's equilibrium model, developed in a physics environment, and Kurt Lewin's field of forces, developed to account for human behaviors. The dynamic model features forces for change which pressure a system to adjust and forces for stability which oppose changes. Traditionally, individuals advocating for change or maintaining the status quo are labeled as change agents and resisters, respectively. The model reframes these behaviors in more neutral terms and describes how all individuals are both agents for change and agents for stability in both their own lives and in the social systems in which they participate.

Human systems experience evolving external and internal pressures to change. The dynamic model identifies the process by which each system uniquely evaluates these pressures (forces for change) and the pressures to maintain the status quo (forces for Stability). The model also identifies the dynamic effects on the system that result from either a decision to change or a decision to maintain the status quo. The cumulative effect of making changes is depicted on a change continuum. The cumulative effect of maintaining the status quo is depicted on a tension continuum. Systems at different points on either of the continuums have predictable internal

dynamics. The two continuums have been merged into a 9-box assessment and description tool.

The definition of what constitutes a particular system dramatically affects the dynamic model. In this model, it is the internally generated or accepted definition that is most critical. In general, a system's definition is contained in what remains stable. Change can, therefore, also be viewed as a change in the very definition of a system. Human systems exist in multilayered and overlapping environments. Participants in each system experience a rank ordering of the systems in which they are members. This rank ordering affects how they evaluate forces for change and forces for stability and decide which system should or should not change.

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The Fielding community provided an environment for me to follow my intellectual journey and experience much richness along the way. The very process of creating my dynamic model was dynamic and never ending. The result was a model that is so fertile that it continues to develop and expand past the final draft of this dissertation. The Fielding community has contributed a great deal to make this possible for me.

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CHAPTER I

INTRODUCTION

Background

My interest in change and resistance to change comes from over 20 years of acting as a professional change agent--a person who acts to bring about change(s) in individuals and/or organizations. The focus of my change efforts has been individuals, families, groups, and organizations (both for-profit and not-for-profit). Whether teenagers or adults, individuals or collectives, each was faced with having to change--usually a change they would not have chosen to initiate on their own. Often, especially in organizations, the changes achieved were not as extensive, dramatic or long-lasting as expected by either those who initiated them or those who did not want them.

I approached these situations in a manner common to change agents and viewed the less than enthusiastic responses of the targets of change as resistance to the proposed changes. I wondered how I might be more effective in realizing the results I was seeking. In response, I decided to study behavior that I was labeling as resistance. I also wanted to explore why people chose resistant behavior. Underlying this exploration was an assumption that the behavior was problematic. My challenge was to find more effective ways of addressing the behavior so the desired change could proceed.

In making my assumption that the behavior was negative, I decided to pose the paradoxical question of whether the behavior was also positive. That the behavior potentially could have positive benefits for both the individual and the organization caused me to pause in my rush to find ways to more effectively facilitate adoption of a

proposed change. As I paused, I realized that I had been looking at situations solely from the perspective of the change agent and had not fully considered the perspective of individuals being asked to change. Adopting this wider perspective meant being open to exploring alternative interpretations of their behavior rather than assuming that all such behavior was simply an obstacle to a proposed change.

Returning to the literature that I had been exploring in my search for insights regarding how to avoid or overcome resistant behavior, I was struck by how the literature was dominated by a single perspective: that of the change agent. Journal articles were titled, "Overcoming Resistance" (e.g., Coch & French, 1948; Calish & Gamache, 1981; Berry, 1983). Large sections of books were devoted to the task of understanding and reducing resistance (e.g. Tichy & Devanna, 1986; Woodward & Buchholz, 1987; Weisbord, 1990). In recent years there has been an increasing tendency to acknowledge the perspective of the individual required to change, but, with a few exceptions, this perspective was not explored in significant detail, especially when compared to the attention given to that of the change agent. It became clear to me that the underexplored side of these situations was the perspective of the persons targeted for change and how their behavior contributed to the health of the organization. That search for balance led me to examine the important contribution of both those advocating for change and those who advocate for retaining what already exists. Through my effort to understand why individuals or groups support or resist change, the thread of inquiry led me to view their actions as expressions of forces for change and forces for stability in operation within individuals and organizations.

Purpose of Study

This study will explore organizational change situations from a systems perspective. In this context, a systems perspective recognizes the complex interrelationships and interdependencies among individuals and groups. The study will identify alternative interpretations to those behaviors associated with the traditional labeling of resistance that must be avoided or overcome. Particular attention will be paid to roles and perspectives of both those who are agents for change and agents for stability. The study will explore existing descriptions of these behaviors and develop a broader interpretation. This interpretation will be reflected in the development of a model. This model will facilitate new understandings of organizational change situations and the important role of both agents for change and agents for stability. These individuals, who all play both roles in various ways at various times, reflect forces for change and forces for stability that are inherent in every situation. The nature, expression and interaction among these forces will constitute a major portion of this study. The model, developed on this foundation, will contribute to a much fuller understanding of the dynamics in organizational change situations and the roles of various individuals and groups.

Summary

Alternative interpretations to behavior commonly labeled as resistance to change will be explored. Particular attention will be focused on those interpretations from the perspective of the person being labeled. This is a topic that has received minimal attention in the literature. The study will integrate cultural frames as well as frames

used to differentiate various types of change.

The model that will be developed is intended to be a useful tool in creating a comprehensive frame for better understanding the complexities of these situations and the necessary balance between the forces for change and the forces for stability. The model will be developed utilizing both a variety of theoretical frameworks and exposure to actual case situations in the field.

CHAPTER II

LITERATURE REVIEW

Overview

The literature on change is extensive. The subject has been explored with a focus on changes by individuals, especially in the psychology literature. Organizational change has been a subject of research within the context of the business literature. The exploration of change from a systems perspective has occurred primarily in the realm of physics and the biological sciences. The psychology of change has been explored by such diverse figures as Sigmund Freud (1922, 1954) and Albert Bandura (1977). Within the past 25 years organizational change has garnered increasing attention. From the mechanistic views of Newton to the more contemporary ideas of Prigogine, change has been a focus of systems thinking. These bodies of literature provide a multifaceted picture of the change process.

Freud's exploration of defense mechanisms (1922, 1954) produced a description of the individuals attempting to maintain their own distorted views of reality. Psychoanalysts, identified change agents in this case, attempted to help patients reduce these distortions. Defenses were seen as a natural part of patients' behavior which were not expected to be completely removed. Nevertheless, they were functioning as an obstacle to the objectives of therapy. This model of the change agent as the namer of truth, or at least holder of the process for identifying "truth," who is opposed by the defensive mechanisms of the person targeted for change became the dominant perspective on change processes.

This perspective maintains the essence of what has come to be known as the

medical model. As Brickman, Karuza, Cohn, Rabinowitz, Coates and Kidder (1985), described this model, individuals are not held responsible for their problematic situations or for finding solutions. That is the responsibility of change agents: the individuals who initiate, plan, control, encourage, and/or facilitate change in organizations. Individuals within organizations are expected to cooperate with directions from change agents, just as patients are expected to follow the direction of doctors. This model allows people to accept help in solving a problem situation but fosters dependency. Because of the popularity of this model, as well as the pervasiveness of Freud's work on defenses, it is typical of change agents to blame targets of a change when the change process does not proceed as planned.

The literature on organizational change, with some notable exceptions (e.g., Schein, 1988) is dominated by this perspective. Literature will be explored to both further understand the nature of this perspective as well as learn why it has been so prominent. Bodies of literature to be examined include theories and practices of systems theory, organizational theories, and management and leadership. Particular attention will be paid to the growing field of the management of change. Attribution theory will be explored to increase understanding of how particular behavior becomes labeled as resistance. The literature on culture will be investigated for insights into how values and norms affect these choices. Literature on conflict and conflict resolution will receive attention. Finally, extensive writing specifically on the topic of resistance to change will be reviewed.

The intended outcome of this review is a foundation of knowledge reflecting the varied perspectives on change. This knowledge will include descriptions of the dynamics of change plus the roles and contributions of individuals supporting the change and those supporting the status quo. Upon this foundation a dynamic model of systems change will be developed.

Systems Models of Change

Conceptualizing change

Change may be defined as *an adjustment or series of adjustments made by a system in response to new conditions presented by its environment*. This assumes that the system, rather than being *closed* to its environment, is *open* to it. "That a system is *open* means, not simply that it engages in interchanges with the environment, but that this interchange is *an essential factor* underlying the system's viability, its reproductive ability or continuity, and its ability to change" (Buckley, 1967, p. 32). An example is a manager (a system) who finds that simply putting more effort into a situation does not bring the result achieved in the past and therefore begins making adjustments (changes) in what is believed and/or done.

Seeing a situation in terms of wholes, as suggested by Senge (1990), can be challenging because it is often difficult to determine whether one is perceiving wholes or parts . Looking at a situation in which a manager is working within an organization which operates in a larger market place is analogous to the wooden apples that were popular earlier this century. The largest apple could be opened and a smaller wooden apple found nested inside. This apple could also be opened to find an even smaller apple. This sequence could be repeated many times. Each system is both a whole and a part of a larger one. Koestler (1962), in exploring this concept of hierarchies of systems, coined the word *holon* (p. 48) to describe this phenomenon of being both a part and a whole at the same time. This concept of the holon has impact on the understanding of change as adjustments to new environmental conditions. Since change can be observed at all levels of a hierarchy, changes at one level may or may not

contribute to and/or affect the nature of changes made on other levels. A manager making a change to utilize systems thinking may dramatically affect the nature of changes the organization makes in adjusting to new market conditions. Other changes on lower levels of the hierarchy may impact on organizational changes but the impact may not be nearly as easily observed or identified.

Two diametrically opposed perspectives on change predominate discussions of change, especially those discussions utilizing a systems approach. The earlier perspective developed is a mechanistic view that emerged from the work of Galileo and Sir Issac Newton.

In the world of dynamics, change is identified with acceleration or deceleration. The integration of the laws of motion leads to the trajectories that the particles follow. Therefore the laws of change, of time's impact on nature, are expressed in terms of the characteristics of trajectories.
(Prigogine & Stengers, 1984 p. 60)

This perspective was adapted from the study of the movements of the planets to examine all forms of change. Understanding change from a dynamic perspective is a much more straightforward process in which change is defined as movement. Analysis of change consists of determining where something is now and using this information to compute where it has been and/or where it is going. Change is a linear process. This model works well for inanimate objects in space, but living systems, especially human organizations, have an additional complexity. These living systems are not passive objects locked onto a particular path. They are actively exchanging information and resources with their environment. Out of this exchange arise a continuous stream of adjustments which can be observed as "change."

This dynamic model contrasts with a field perspective where the forces affecting a specific situation can be numerous and hard to detect (Lewin, 1947, 1948, 1951). Hallmarks of field theory include the importance of wholes and the assumption that

boundaries between what is perceived as a whole or a part are somewhat arbitrary. This view is at "the opposite extreme from the atomism that underlies the dynamic paradigm and takes the individual element as primary" (McWhinney, 1990, p. 51). Field theory recognizes a complexity that is much less apparent when viewed from the dynamic perspective. Since changes in one system, whether an individual or organization, can also change the forces affecting another system the dynamics of a change situation are more reminiscent of a Rubic Cube--the multicolored blocks that thrilled and frustrated many people in the early 1980s with the multiple effects of each move--than a straight line. One outcome of the transition from a more dynamic paradigm approach to a field paradigm is that there is now much less discussion of specific causes of particular changes and more identification of factors which correlate with those changes.

The search for a single or dominating cause of change is a legacy of the dynamic paradigm. Using that approach, a situation is divided into its component parts and studied. The reductionist assumption is that if a situation is dissected sufficiently, the situation's nature and causes can be more easily discerned. This paradigm assumes singular causes and, therefore not surprisingly, that is what is produced using such an inquiry perspective. This approach is much more effective when used to explore non-living systems. Living systems, especially human systems, are far too complex and interactive to lend themselves to such reductionistic approaches. The field paradigm, with its focus on wholes rather than parts, is much more useful. This perspective assumes an interaction among varying, multiple forces to explain why change takes place. This awareness of an interaction among forces as well as the fact that these forces are always in flux are fundamentally different assumptions from those found in the dynamic paradigm.

Process of change

Changes in environments do not change systems. Systems change themselves in response to the way those environmental changes are experienced by the systems. In human systems it is the systems' perceptions of their environments that are crucial to whether a change is initiated. Human systems consciously evaluate information gleaned from their environments, especially when there are signs that the environment is becoming different from what it was before. The systemic intent of systems is to experience a stable interchange with their environments. When changes in an environment have been detected, systems may choose to try to regain their previous stable states within their environments. They may also strive to achieve new, but similar, stable states or seek to create significantly different stable states.

An exchange model is helpful in looking at this process. At the time the system experiences a change in the interactions with its environment, the system will reevaluate the current exchange, especially in terms of how equitably it is experienced. The system may also speculate on what type of new stable exchange might be achieved. Based on these perceptions of the environment, the system may take purposeful action to move the exchange to the desired state. In many cases the system, whether an individual or organization, does not engage in this process in a conscious manner. More often there is an experience of discomfort because the exchange no longer operates as before. While attempting to maintain as much of the old stable state as possible, the system casts about for actions that will create a new stable state. Once that first acceptable state is achieved, the system settles into the exchange process without exploring further alternatives. The system will remain in that stable state until there again is an experience of discomfort with the exchange process.

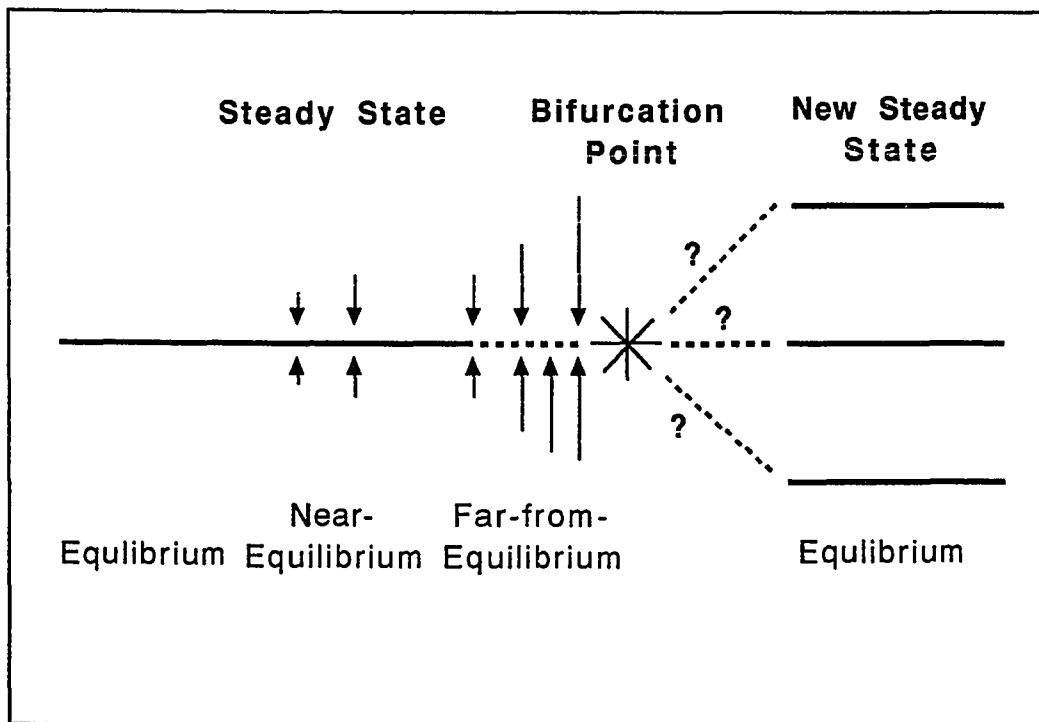
In this context, where the system is evaluating whether a current state is stable or not, it is the system's perception of its environment that is the most critical in affecting the course of change and least available for critical assessment. The key components to a system's decision to change are 1) understanding which critical data were collected, 2) which evaluation criterion was used, and 3) which stable state was determined most desirable. Rather than focus on a single factor, all factors in the process must be considered to contribute to the change that results. Isolating a single cause before, during, or after a change takes place distills much of the richness of the change process and retains only a rough caricature of the actual contributors to the change.

The stability of a system can have a significant effect on how readily it engages in change. Systems are most stable when they experience being in equilibrium with their environments. In this context, equilibrium is defined as a system receiving the resources it needs from its environment in exchange for what is produced by the system. Prigogine and Stengers described this condition as "the stable, predictable behavior of systems tending toward the minimum level of activity compatible with the fluxes that feed them" (1984, p. 139). The exchange process flows smoothly and the system does not experience tension arising from the exchange. Occasional fluctuations in this exchange process are not assumed by the system to be a basic change in a stable relationship with the environment. More significant fluctuations may cause some concerns about the relationship. Prigogine and Stengers referred to this condition as near-equilibrium. The situation is still rather stable but, from this exchange process, a measure of tension is introduced into the system. The focus of the system is on maintaining stability rather than seeking change. In cybernetic terms, the orientation of the system is towards negative feedback. The system is alert to signs of deviance from

the state that have been consistent with the experience of stability. These signs, when found, stimulate action to bring the system back to the standard. An example of this would be a situation where an employee provides a product for a customer that is different from the specifications which were previously provided. The employee's supervisor calls attention to the differences and requires that the employee produce products to specification. The employee complies.

Systems function most often in a steady state in which they are in equilibrium or near-equilibrium with their environments. A single major event or a series of smaller events, usually originating in a system's environment, can drastically alter this pattern (see Figure 1). The experience of stability can be shattered. Prigogine and Stengers called this *far-from-equilibrium* and identified it as a condition in which significant changes can take place quickly. The changes may result in systems achieving new forms of steady state and returning to experience either equilibrium or near-equilibrium. If a steady state is not achieved, positive feedback will now dominate as deviance from the standard is reinforced rather than controlled. An example of this is the point where an organization is extremely stressed from its inability to regain equilibrium with its environment, such as sales continuing to plummet. Recognizing that the old approaches are not working, there is an active search within the organization for new ideas. The very individuals who would have been reprimanded in the steady state now become the organizational champions. A moment may be reached, which Prigogine and Stengers called a bifurcation point, when it is impossible to predict what direction the change will take. A bifurcation point is simply a divide, a point where the system can change dramatically. As water is heated (environmental changes) it begins to move from equilibrium to near-equilibrium. The water is less stable as it begins to move in convection currents. As the heat increases, the water moves more vigorously in a far-

Figure 1. Change conditions and process from equilibrium to bifurcation



from equilibrium state. The water may approach its boiling (bifurcation) point. If the water temperature is raised to boiling, some of the water suddenly reorganizes into steam (a new steady state under the heated conditions). While it is generally known that water will turn to steam when heated, it is not known which molecules will make the transformation or when it will happen for those molecules that do transform. While it is generally known that the water will turn to steam, it is not known which molecules, at a particular moment, will reorganize to better reflect the new conditions. This reflects the decrease in predictability that occurs as a system moves further from equilibrium. At bifurcation points systems may disintegrate into chaos or reorganize in more effective ways. If the latter course is followed and the new organization responds to

the pressure that contributed to the system's becoming far-from-equilibrium, the system will achieve a new equilibrium state and regain the experience of stability under the new conditions.

Systems in equilibrium or near-equilibrium states require a significant jolt to produce substantial consequences. But if the system is pushed into a far-from-equilibrium state it becomes extremely sensitive to external influences. Relatively small inputs can create huge results, which are often unpredictable. These small inputs, amplified through positive feedback, are often judged to be qualitative or revolutionary changes. An example of this process is a suggestion, that when sales plummet a company may reorient to become more customer focused than its production focus of the past. This suggestion, which would have been easily dismissed under equilibrium conditions or accepted solely for its publicity value, becomes very attractive under the far-from-equilibrium pressures. If this type of change does not reduce the tension and increase the stability the company may reach a bifurcation point where the outcome will not be predictable.

Health of systems

All systems are affected by the law of entropy. Entropy is the degradation of a system to its simplest, inert form. Closed systems, because they do not have interchanges with their environment that are essential to their continuing viability, proceed on a course of entropy. Open systems avoid entropy by engaging in a dissipative process. Prigogine and Stengers (1984) contrasted this entropic process with a dissipative process. The dissipative process includes two factors: the importation of resources, including energy, from the system's environment, and the

periodic evolution of the system's structure into more complex forms. The purpose of this increased complexity is to improve the system's capability to more efficiently acquire and use resources from the system's environment. The failure or even weakening of the dissipative process can lead to entropy.

The relative balance between the entropic and dissipative processes is an effective barometer of the health of a system. Systems with strong dissipative processes are healthier. This perspective is reflected in the business press when it refers to particular companies as "robust" when they are producing products and services desired by their markets, and demonstrating an ability to make changes to take advantage of changing market conditions. Companies that decline in their ability to effectively interchange with their environments and appear unable to change to meet new market conditions are often referred to as "sick."

Change within systems therefore arises from both types of dissipative processes. A system reacts when the exchange process for specific resources is altered by the environment. Systems also act to restructure and become more complex to more efficiently use the resources available. These changes are a significant part of any system's effort to fulfill a continuing need to define themselves. Maturana and Varela (1980) believed that this defining process is an even higher priority to systems than the actual exchange of resources with their environments.

Concluding thoughts on systems

Managers face a serious challenge. They must see their situations through new eyes to better understand dynamics that had previously been invisible because they were taken for granted. From this new perspective managers must then identify new courses of

action to follow. Using systems thinking managers must attempt to not only better understand their own organization (system) and their organization's environment but they must also better understand the complex interactions between them. This perspective also helps them understand how the formal divisions within their companies, as well as individuals, function as both parts of whole systems and whole systems in their own right. Within this context they have the opportunity to then understand how levels of systems make changes to more effectively sustain themselves and interact with their environments.

Equilibrium and near-equilibrium situations are predictable. It is predictable that the status quo will be maintained and reinforced during these steady states. Changes that are implemented during these situations are also predictable. They are not dramatic shifts in direction or behavior. They are a linear extension of past events. The dynamic perspective has many useful applications under these types of conditions. Events and interventions can be seen to have specific, predictable effects that are more likely to be measurable.

Far-from-equilibrium situations are not predictable, especially if a bifurcation point is reached. Under the stress of the external and internal forces causing the organization to reach this state, linear extensions begin to fade and the system will explore and adopt changes that would not be considered under any other conditions. The system is in crisis. Use of the dynamic perspective under these conditions can lead to many errors in understanding what is happening and/or what may happen.

Depending on the specific circumstances in a particular situation, the whole system may be at the same point in the continuum of equilibrium to far-from-equilibrium or parts of the system may be in different states. One part of the system may relate primarily to a particular part of the system's environment, e.g., a diversified company organized into divisions to respond to differing markets with different

products and services. Conditions in one portion of the environment may contribute towards part of the system moving into a far-from-equilibrium state. Other parts of the system may remain in equilibrium. This latter reality may temper the depth of the far-from-equilibrium state achieved. This variance in states within the same system may result in significant changes happening in one portion of the system while other parts maintain the status quo. Since the system is integrated, in time changes happening in one part of a system will affect all other parts of the system. Burke applied this concept to efforts to introduce change into organizations.

Systems theory has provided a frame of reference for remembering that even though I can only intervene in one part of a system at a time, that act may eventually have consequences or start into motion a set of outcomes which will have an impact upon the entire system. (1987, p. 217)

In all systems there must be a balance between stability and flexibility. This balance does not remain static. As the environment changes and stabilizes the system often reflects these patterns as the system's point on the equilibrium continuum changes. Stability characterizes equilibrium and near-equilibrium. Flexibility, arising from the instability, prevails in far-from-equilibrium situations. Systems that do not have opportunities to introduce change into their operations experience entropy and its slide towards death. Change that is part of the dissipative process infuses vitality into the system. Systems that experience far-from-equilibrium and are not able to find the actions that move the system back towards equilibrium are more likely to move to a bifurcation point. At that point the system may radically reorganize in new, unexpected ways (a new steady state), or the system may disintegrate.

The introduction of change into a system, either from internal or external sources, is not the straightforward process envisioned by those who use a dynamic perspective in all situations. It is through looking at the whole system, including its component parts

and environment, plus their multiple interactions, that more understanding of change in systems can be achieved.

Change in Individuals

Whether changes are major dramatic processes or quiet adjustments, ultimately individuals make them by themselves. Why these changes take place and how they are accomplished has been the focus of many writers. These writers often portrayed individuals' behavior as reflections of temporary balance points between or among conflicting forces in their lives. Change is therefore simply movement to new balance points. This viewpoint was especially clear in the works of Sigmund Freud and Carl Jung. Freud (1922) assumed the balance was between individuals' drives to satisfy their instincts and demands of the society for order (Maddi, 1989). Jung (Campbell, 1971) regarded the balance as being an outcome of conflict between individuals' expression of self and expression of the collective unconscious. Individuals act on their own experience of their situations to make choices that they feel lead to better balance.

This view of change contrasts with the more humanistic approach of Fritz Perls and Carl Rogers. Perls, in his work with Hefferline and Goodman (1951), presented change as a flowing response to the environment as individuals attempt to "self-actualize." Changes are not dictated by the environment. Rather, they are the outcome of the self using each situation to grow. Rogers (1961) suggested a similar view.

Change is the result of an

urge which is evident in all organic and human life -- to expand, extend, become autonomous, develop, mature -- the tendency to express and activate all capacities of the organism, to the extent that such activation enhances the organism or the self. (p. 35).

Albert Bandura (1977) rejected these perspectives that change results from internal forces (instincts, self-expression, self-actualization, or maturity) and found that it is in the learning resulting from interaction with environments that change takes place. People examine the events of their lives and attribute meaning to them, either from their own experience or from meaning shared by others. Using specific meanings, individuals evaluate their behaviors and determine which have been more successful than others. When a particular behavior has been deemed to be less successful, the individual makes a choice whether to change it and, if so, how.

With this rich foundation of thought upon which to build, it is surprising that writers, who have focused on the steps, phases or stages of change, have chosen not to buttress their approaches with these psychological assumptions. Instead, they have focused on more descriptive approaches. They pay much more attention to what is happening in the change process than why it is happening. Lewin (1947, 1951) presented a model that remains the underpinning for many later approaches. His three step model of "unfreezing, moving, and freezing" (1951, p. 228) found wide acceptance. He saw this process as an expression of his force field theory. *Unfreezing* takes place when the relationship of the opposing forces becomes unbalanced. The *moving* period takes place during the exploration of a new balance point. Once a balance point is reestablished, a new *freezing* occurs.

Kübler-Ross's (1969) book entitled On Death and Dying, had a significant impact on how change is conceived. Her work introduced a strong emotional element to the concept of stages of change. In her work with terminally ill patients she observed a distinct set of stages as individuals faced their impending deaths. She identified those stages as denial, anger, bargaining, sense of loss, and acceptance. Elements of these stages appear in later writings of others on the change process.

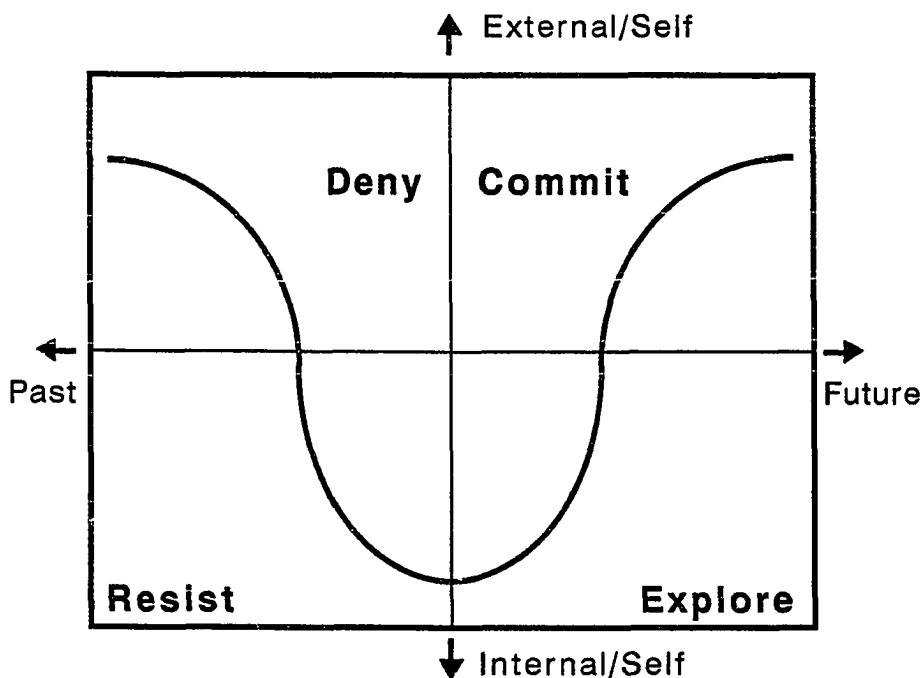
Bridges (1980, 1986) recognized this need to look to the past, as described by Kübler-Ross, as an important part of changing. He adopted a three stage process which he called *endings*, *neutral zone*, and *beginnings*. His descriptive approach includes his belief that "Every transition begins with an ending. We have to let go of the old thing before we can pick up the new" (1980, p. 11). "The second phase is a time of lostness and emptiness before 'life' resumes an intelligible pattern and direction, while the third phase is that of beginning anew" (p. 17).

Weisbord (1990) proposed a four phase process for individual change. The phases begin with *contentment*, a time of satisfaction with the status quo. Any change can move the person into *denial*, where the individual is perceived as being unaware or afraid of change. When the person owns up to the change, he can move on to *confusion*, a time to be scattered, unsure. Finally, after sorting out the pieces, the individual can move into *renewal*.

People in Contentment or Denial are not frozen. Events will move them soon enough. Little can be done to hasten the day, although rational problem solving can certainly delay it. ... To mobilize energy, we need to be with people in Confusion or Renewal. (p. 268)

Utilizing both a time continuum and a continuum expressing the internal/external focus of change, Jaffe and Scott (1990) created a model called the Transition Curve© (see figure 2). Their four stages of change are *deny*, *resist*, *explore*, and *commit*. In completing a change, individuals are expected to pass through each of these stages, though not necessarily in a smooth process. Some may never complete the passage and therefore never adopt the change. Others may move forward and backward as information as well as the situation changes both within themselves and in the world around them.

Figure 2. Transition Curve©



Source: Jaffe & Scott(1990), Changing ourselves, changing organizations. in 1990 Conference Proceedings. Portland, OR: Organization Development Network. p. 299. (used with permission)

In a fashion consistent with Bridges' first step being a look back, the Transition Curve identifies that the early stages of change are a focus on the past. This is reflected in the first stage, denial, in which individuals continue with "business as usual." Behavior will not change. As the forces for change continue to mount pressure on the individuals, they will begin to experience emotional reactions to the forces for change. This moves the focus more internally and the persons into the second stage. Individuals may be feeling anger, blame, loss, and sadness. As these feelings are more fully expressed and released, they are ready to switch their focus from the past to the future. The next stage can still be considered an internal stage because individuals are

trying to learn about what these changes will really mean to them. They feel more energy but also experience more confusion and chaos. They are trying to understand what the changes will mean to them and accept them. As this becomes clearer to them, they move into the fourth stage, commitment. This is an external stage since it is focused on implementing the change, usually in cooperation with others.

A model that explores the *levels of use of an innovation* (change) in even more detail is the Concerns Based Adoption Model developed by Hall, Loucks, and Newlove (1975). Its eight levels are weighted towards the adoption of the change, without significant consideration of the process of letting go of the past. These levels are:

1. **Non-use** Little or no knowledge of innovation
2. **Orientation** Acquiring information about innovation
3. **Preparation** Preparing for first use
4. **Mechanical** Focus on short term, day-to-day use
5. **Routine** Use is established
6. **Refinement** User varies use of innovation to increase impact
7. **Integration** Combining own use of innovation with that of others
8. **Renewal** Reevaluates quality of use and modifies innovation

These levels describe the evolution of not only the acceptance of a change but also how that change is used once it is initially adopted. It demonstrates well that changes are rarely simply adopted and that the new attitudes and behaviors used in the future require further modification. Individuals learn from their experiences, and use that new information as they continue to evaluate their changes.

Each individual is a separate subsystem in the larger systems in which they

belong. The systems dynamics of forces for change and forces for stability as well as a equilibrium continuum, described in the previous section, apply to individuals too. The various stages of a change process, described in this section, explain how individuals participate in the change process, both behaviorally and emotionally.

Organizational Change

Concepts of change

Dalziel and Schoonover (1988) provided the broadest definition of change in organizations: "Change can be defined as a planned or unplanned response of an organization to pressures." (p. 10) Ledford, Albers, Mohrman and Lawler (1990), focused more on large-scale organizational change when they said,

We will define large-scale organizational change as a lasting change in the character of an organization that significantly alters its performance. This definition comprises two important constructs: change in character and change in performance. It also specifies that the alterations are not temporary; rather, the organization becomes different and remains different.. (p.2)

Beckhard and Harris includes their definition in their description of large-system change strategy.

We define a large-system change strategy as a *plan* defining what *interventions* to make *where*, by *whom*, and at what *time* in order to move the organization to a state where it can optimally *transform* needs into results in a social environment that nurtures people's worth and dignity. (1977, p. 15)

Susan Mohrman, Gerald Ledford, and Allan Mohrman (1990), in reflecting on the contributions to their book, were struck by the "variety of perspectives, ways of

defining and understanding change, and ways of practicing the change agent's role. These differences related to important value differences. They are vivid reminders that change means different things to different people" (p. 295).

Perceptions about organizations and about the change process play a significant role in how change is addressed. The role of perception is an issue beginning with the fundamental level of those factors which trigger the start of the change process. Kanter (1983) stated, "Organizational change is stimulated not by *pressures* from the environment, resulting in a buildup of problems triggering an automatic response, but by the *perceptions* of that environment and those pressures held by key actors" (p. 281). This observation is challenged by Lawrence and Lorsch, 1969, Beckhard and Harris (1977), Dalziel and Schoonover (1988), and S. Mohrman and A. Mohrman(1990) who catalogued the environmental pressures they felt are the primary triggers of change.

How change is perceived makes a difference. Is organizational change a series of modifications within an existing frame for proceeding with organizational activities? Is it shifting to a new, untried frame? Is change a single event or a long series of connected events? Is change a simple task to be planned and controlled or is it a complex unfolding, beyond the reach of "management?" The assumptions made in response to this line of questions will have a dramatic affect on how organizational change is conceptualized, what action is suggested in response and how reactions of individual participants are perceived.

A number of authors have categorized organizational change into two types. Bridges (1986) called organizational changes *changes* or *transitions*. Want (1990) suggested *development* and *change*. The most common distinction was developed by Watzlawick, Weakland, and Fisch (1974) when they referred to first- and second-order

change. From their review of the literature, Levy and Merry (1986) compiled a summary of the distinctions between the two types of change (See Table 1).

Table 1
Characteristics of First- and Second-Order Change

<i>First-Order Change</i>	<i>Second-Order Change</i>
A change in one or a few dimensions, components, or aspects	Multi-dimensional, multicomponent, and multiaspectual
A change in one or a few levels (individual and group levels)	Multilevel change (individuals, groups, the whole organization)
Change in one or two behavioral aspects (attitudes, values)	Changes in all the behavioral aspects (attitudes, norms, values, perceptions, beliefs, world views, behaviors)
A quantitative change	A qualitative change
A change of content	A change of context
Continuity, improvements, and development in the same direction	Discontinuity, taking a new direction
Incremental changes	Revolutionary jumps
Logical and rational	Seemingly irrational, based on different logic
Does not change the world view, the paradigm	Results in new world view, new paradigm
Within the old state of being (thinking and acting)	Results in a new state of being (thinking and acting)

Source: Levy & Merry (1986). *Organizational Transformation: Approaches, Strategies, Theories*. New York: Praeger. p.9 (used with permission)

Second-order change touches all levels of organizations. "Major transitions unleash powerful conflicting forces in people; individual psychodynamics of change must be understood and managed. Change invokes simultaneous personal feelings of fear and hope, anxiety and relief, pressure and stimulation, threats to self-esteem and challenges to master new situations" (Tichy & Devanna, 1986, p. 31). These forces may also interact with "many aspects of social and organizational culture and structure ... that are invisible to the human eye" (Morgan, 1986, p. 29).

Nadler and Tushman (1990) developed a two-continuum process for categorizing organizational change. One continuum assessed change in terms of

whether it is incremental or strategic (similar to first- and second-order change). The second continuum assessed change as either *reactive* or *anticipatory*.

When these two dimensions are combined, a basic typology of different changes emerges. Change that is incremental and anticipatory is called *tuning*. ... Incremental change that is initiated reactively is called *adaptation*. Strategic change initiated in anticipation of future events is called *reorientation*; change introduced in response to immediate demands is called *re-creation*. (p. 102)

These authors found that re-creations were the most risky of changes, with fewer than 1 in 10 such changes succeeding. Those that did succeed often "entail changes in the senior leadership of the organization, frequently from the outside" (p. 103). They found reorientations to be much more successful, but these too often involved changes in leadership. One explanation of this high failure rate and high frequency of leadership change may be found in Cummings, Mohrman, and Mitroff's (1990) observation that:

large-scale change transcends the authority of any leader. While limited change may be driven by the authority of the leader, in large-scale change the bases of authority themselves may change. A leader promoting large-scale change is putting her or his role at risk. Success in this situation depends on the leader's ability to establish a new power base that drives the change and is strengthened by the change itself. (p. 95)

Pascarella and Frohman (1989) observed:

While the times call for change, major organizational change threatens the very people with the central role in operating our organizations. Managers are appointed to keep things running. Although many of them like to think of themselves as agents of change, they often regard innovation merely as an add-on -- something to create enough headway to keep the corporate ship from drifting into danger. ... Managers generally are receptive to specific new programs or techniques that promise to tune up the existing organizations without endangering its basic design. (p. 3)

A core element of this perception is the assumption that the manager needing to control situations. This assumption arises both from the specific training and orientation received by managers and a more general cultural inclination to control. Haimann, Scott and Conner (1978) defined control as "the management function that ensures that

organizational performance is as close as possible to the objectives, policies, and standards established in the planning process. ... Without control, management could not do a complete job of managing" (p.446). Deviation from plans is therefore often seen as a loss of control, a failure to manage properly. The nature of second-order change implies that it does not lend itself to either effective planning or control. The risk is high for managers to fail to control their plans. This emphasis on managerial control operates in a cultural context that supports the contention that managers can and should control outcomes (see later section on cultural impact on organizational change). A significant outcome of this dynamic is the focus by those who write about organizational change, on changes and environments most conducive to first-order change. It is in that context that the managers have the best opportunity to maintain their desired control.

Under these types of conditions, how do organizations come to change at all, especially second-order changes? Lewin (1951) detailed his concept of dynamic interactions in a field of forces that affects the behavior of both individuals and organizations. He described a combination of internal and external driving and restraining forces that find an evolving balance point. Alterations in the driving and/or restraining points result in a new balance point unless there is a modification in other driving and/or restraining forces that reestablish the original balance point. If a new balance point is established, a change has been made. Force field theory has been used not only to describe how changes are created but also as a tool for bringing about new changes. This theory has remained a critical foundation for most theories of change that have since been developed. Authors (e.g. Scott, 1967; Mintzberg, 1979; Bolman and Deal, 1989) have described the theory in new terminology (an evolving balance or match between an organization's design and activities and its environmental and

personnel needs). The essence of the approach is the same.

Lewin's force field theory has often been associated with the theory that individuals and organizations seek a homeostasis, a steady state, as a means of maintaining their existence and identity (Dell, 1982; Weisbord, 1990). Dell effectively argued that a continuous return to a particular steady state, a status quo, prevents an individual or organization from evolving.

System change can easily be explained if homeostasis is considered the tendency to seek a steady state, *any* steady state (as opposed to a specific steady state). Thus, when a system is perturbed, as all systems are, it tends to seek a steady state that is *always* slightly different from the proceeding steady state. In short, homeostasis evolves. (Dell, 1982, p. 27)

How a system is conceptualized and defined has important implications for the process described above. A fundamental issue is whether the various forces are conceived as being totally within the system, or whether forces from outside the system are also included. The most common view of organizations is that they are "open systems" that have interactions with their environments across their common boundaries. This is stated most clearly by Mealiea (1978) in his statement, "With the greater rate of change in the external environment, there are a greater number of changes the manager must initiate within his or her own organization if it is to remain attuned to environmental forces" (p. 16). This contrasts with Maturana and Varela's (1980) assumption of a closed system that they referred to in their concept of *autopoiesis*. The autopoietic approach assumes that the primary task of a system (an organization or an individual) is to define itself. It can only perform this role within the "closed domain of relations specified only with respect to the autopoietic organization that these relations constitute" (p. 88). The system doesn't experience an environment external to itself since it incorporates elements of that environment into itself. Change is generated from within the system. Both the open and closed systems approaches, as

described above, assume that change is an outcome of interactions between the system and its environment or among elements within the system. The most important implication for the change process is what may be identified as an element that is consciously included in this interaction. It is important that observers of the change process utilize both concepts, open and closed, in order to achieve the most comprehensive understanding of these complex dynamics.

Whether change considered to originate from within or outside an organization, the increased frequency of change is well documented. Historically, the pace and frequency of change has increased. During the Middle Ages, centuries passed with only infrequent experiences of first-order changes and few, if any, second-order changes. By the early 20th century the occurrence of first-order changes had dramatically increased and many people had periodic experiences with second-order changes. The advances in transportation and communication are obvious examples. Peter Vaill (1989) has explored a metaphor which addresses both the pace and the frequency of change.

A manager who attended a seminar I was conducting ... supplied me with the metaphor ... 'It is the metaphor of 'permanent white water.' 'Most managers are taught to think of themselves as paddling their canoes on calm, still lakes,' he said. 'They're led to believe that they should be pretty much able to go where they want, when they want, using means that are under their control. Sure there will be temporary disruptions during changes of various sorts -- periods when they have to shoot the rapids in their canoes -- but the disruptions will be temporary, and when things settle back down, they'll be back in the calm, still lake mode. But it has been my experience,' he concluded, 'that you never get out of the rapids! No sooner do you begin to digest one change than another one comes along to keep things unstuck. In fact, there are usually lots of changes going on at once. The feeling is one of continuous upset and chaos. (Vaill, 1989, p. 2)

Pava (1986) echoed this theme with his statement,

In a world that grows more turbulent, managers must cope with changes as a daily fact of life. Under these circumstances, "planning," as a creation of

a different future, ceases to exist separately from "administration." Yet managers remain ill-prepared to select their options for influencing emergent futures as a continuous element of their everyday work. (p. 615)

Impact of culture on organizational change

Organizational change is strongly influenced/controlled by culture. "Every major change has to be carried through against such a highly interwoven background" (Lewin, 1948, p. 38). Yet culture is so pervasive that most managers are blinded to its influence. "Culture is *context*. It is the system of symbols that people use to give meaning and order to their actions and the actions of others; action is meaning only in terms of the symbolic context in which it is interpreted" (Feldman, 1986, p. 591). Burack provides an example of a more extensive expression of the most common definition of culture.

The particular way things are done in the organizations. Its shared assumptions, beliefs, and values define *behavioral norms and expectations*, this is the 'glue' that holds the corporate community together. ... Culture helps to concentrate individual energy in particular directions since the culture bottom line is expected behaviors of organization members." (Burack, 1991, p. 89) (Similar to: Adler & Jelinek, 1986; Dyer & Dyer, 1986; Kilmann, Saxton, & Serpa, 1986; Snyder, 1985; DeLisi, 1990)

Culture cannot be identified as a monolithic force. It is a description of a collection of forces, some of which function as a source of change and others support retaining the status quo. Change both originates within a culture and is opposed by the same culture. Understanding of cultural impacts on organizations must take this apparent ambiguity into account.

Organizational cultures are resistant to change, incrementally adaptive, and continually in flux. ... Underlying our argument is the premise that cultures are socially constructed realities and, as such, the definition of what culture is and *how cultures change* depends on how one perceives and enacts culture. Stated differently, what we notice and experience as culture depends on how we conceptualize culture. (Meyerson & Martin, 1987, p. 623)

Burack's definition fits what Meyerson and Martin called "Paradigm 1: Integration." In this paradigm, culture is identified by what is shared or unique to the organization. Points of difference and ambiguity are ignored. Change is often initiated by leaders. Changes in the culture itself are more revolutionary since the culture tends toward maintaining itself. Superficial changes are considered controllable, but deeper changes require more effort to control. "Paradigm 2: Differentiation" focuses on diversity. This is a more open system approach that highlights subunits and interactions with the environment. "Organizations are not simply a single, monolithic dominant culture. Instead, a culture is composed of a collection of values and manifestations, some of which may be contradictory" (p. 630). Points of similarity are ignored and ambiguity is resolved by channeling it to subunits. Change is most often incremental and initiated in smaller units by individuals in those units rather than from a central source. The sources and consequences of change are both predictable and unpredictable. "Paradigm 3: Ambiguity" differs from the others primarily in its attention to ambiguity. "Rather than denying or channeling it, ambiguity could be accepted ... irreconcilable interpretations are simultaneously entertained; paradoxes are embraced" (p. 637). This type of change is considered relatively uncontrollable since it is continual and accomplished through many individual adjustments.

Tolerance of ambiguity is important in dealing with culture. All three of Meyerson and Martin's paradigms contain truth. Each paradigm selects different elements to highlight and ignores those chosen by the other paradigms. It is most useful to examine a particular culture from all three perspectives. Since each paradigm makes what appear to be conflicting assumptions about the sources, scope, nature and controllability of change, there is danger in limiting the examination of an organization by using only one paradigm. Yet the most common view of organizational cultures is

limited to Paradigm 1, as demonstrated by Burack's definition. This blind spot in the change process can lead to the surprise outcomes Manz, Bastien and Hostager (1989) referred to when they said, "Effective implementation and management of significant organizational change is an elusive process. The sheer complexity of organizational systems can often lead to unpredictable and frequently detrimental causal linkages" (p. 1). Meyerson and Martin's three paradigms provide some assistance in discovering important, usually invisible, cultural dynamics.

"It is just as accurate to assume that culture is a source of organizational change rather than an obstacle to change. This is so because all ideas for change must come from the symbol system or be interpreted by it to be understood. The organizational culture is the river of meaning in which any plans for change must be able to swim" (Feldman, 1986, p. 603). Kilmann, Saxton and Serpa (1986) explored this cultural influence further. They identified three interrelated aspects of how this impact occurs: the directional influence of the culture on the organization, the pervasiveness of the impact, and the strength of the impact.

Cultural dynamics are usually difficult to observe since they are, by Burack's (1991) definition, "shared assumptions, beliefs, and values." Organizations operating within the American culture share a number of assumptions, beliefs, and values that significantly affect how change is conceived and what roles are to be played by those involved in the change process.

What is a person's relationship to the world? Are people dominant over their environment, in harmony with it, or subjected to it? Americans tend to see themselves as dominant over both the man made and the natural environment. American executives have traditionally seen their relevant external environments -- economic, social, cultural, political, legal, and technological -- as relatively stable and predictable. ... Americans maintain a higher degree of certainty and predictability than many of their foreign colleagues. ...

Anticipating stability, Americans also anticipate that they shall master the environment around them. ... American's fundamental orientation toward problem solving is also indicative of their dominance orientation. Americans see situations as problems to be solved. By contrast many people in other parts of the world see situations as realities to be accepted. ... dominance, harmony, subjugation, three very different orientations. (Adler & Jelinek, 1986, pp. 78-79)

Americans are considered one of the most individualistic peoples in the world. "People in individualistic cultures use personal characteristics and achievements to define themselves. They value individual welfare over that of the group" (p. 79). American managers come to the change process with a cultural predilection to assume that they can control change. They are also likely to connect their own sense of self with their success in achieving a stated change goal. These dynamics can have a profound effect on the change process. Bridges (1986) pointed out one danger of the focus on achievements.

We Americans are always marching off on new ventures without bothering to end old ones. ... Americans often fail to understand that their main difficulty with making new beginnings comes not from a difficulty with beginnings *per se*, but from a difficulty with endings and neutral zones. (p. 30)

The concern for individual achievement, rather than group identity, can have an effect on how an executive interprets the behavior of someone who, to an American manager, appears to be thwarting achievement of a particular change goal. Pascale (1978) contrasted the managerial approaches of American and Japanese executives. Whereas Americans tend to utilize Meyerson and Martin's Paradigm 1, Japanese are much more oriented towards Paradigm 3. Adding this to the Japanese preference for cooperation within the group, associated with their inclination to identify more with the group than as individuals, results in a very different assumption set about the "obstructive" behavior noted above. In addition, it is the Paradigm 3 view of change as a continual process of small adjustments that also distinguishes the Japanese approach

from the American's. This is exemplified by the Japanese concept of "Kaizen," which means gradual, unending improvements involving everyone (Imai, 1986).

Recently there has been a great increase in attention to the influence of culture on the activities and outcomes of organizations. This has been focused on the development of the concept of "organization culture" -- which has been developed within the framework of Meyerson and Martin's Paradigm 1. The development of this organization culture concept has been primarily an American phenomenon.

Fundamental to organization culture concept is the belief that top management can create, maintain, and change the culture of an organization. ... In short, many management theorists envision culture as a method for affecting performance, productivity, and experience in the organization. Whether implicitly or explicitly, organization culture is most typically seen as an implement for managerial manipulation and control. (Adler & Jelinek, 1986, p. 82)

Table 2

Systems change vs. Cultural change

SYSTEMS CHANGE	CULTURAL CHANGE
1. Problem-oriented	1. Value-oriented
2. More easily controlled	2. Largely uncontrollable
3. Involves making incremental changes in systems	3. Involves transforming basic organization
4. Focuses on improving organization output/measurable outcomes	4. Focuses on the quality of life in an organization
5. Diagnosis involves discovering nonalignments between systems	5. Diagnosis involves examining dysfunctional effects on core assumptions
6. Leadership change is not essential	6. Leadership change is crucial

Source: Dyer, William G. & Dyer, W. Gibb, Jr. (1986, February). Organization development: Systems change or culture change. *Personnel*, 63(2), p. 20. (used with permission)

Although executives may approach culture change as another first-order change to manage, the elements of culture change are clearly second-order change. Manager's cultural blinders which emphasize their ability to control all situations leads to this

misinterpretation. Dyer and Dyer (1986) created a list of comparative characteristics of what they called "systems change and culture change" (see Table 2). These lists bear a striking resemblance to the Levy and Merry (1986) table comparing first- and second-order changes.

Even Kilmann, Saxton, and Serpa (1986), who strongly support a manager's ability to change the organization culture, added a caution,

Whether a given culture can be changed depends on how deep-seated the culture is and whether multiple cultures exist. The deeper the level at which the culture change is required and the more cultures there are in the organization, the more difficult and time consuming the culture change process. (p. 90-91)

Managers who misinterpret these situations run a serious risk of failing to meet their stated objectives. If the cultural dynamics remain invisible to these managers, they will probably attribute the failure to another more visible factor or participant.

Managing organizational change

Writer, who address the process of change within organizations may roughly be placed in two categories: technicians and conceptualizers. Technicians focus primarily on first-order change, but may also address second-order change. They believe that change can be planned and managed. Using analytical, methodical, and often flexible approaches, they recommend specific steps to achieve successful organizational change. Conceptualizers experience a much less straightforward situation that involves complex interactions. They propose process steps that allow for continuing analysis and new decisions rather than a comprehensive plan that can be followed from beginning to end. Conceptualizers question the ability to identify clear beginnings and endings.

Dalziel and Schoonover (1988), Leathem (1989), and Zeira (1989) are examples of technicians addressing primarily first-order changes. Dalziel and Schoonover presented this viewpoint most clearly. "Organizational changes can take many forms. They may encompass *hard* systems, such as factory automation or a new computer system; or a *soft* area, such as personnel or quality systems. ... These changes have one thing in common: they can be planned" (p. 3).

First, change leaders have to prepare their organization for change. Next, they have to ensure that they have the right people working with them. And finally, as they pass from the idea stage, through development, toward implementations, they must follow an action plan that ensures their organization can embrace and absorb the change. (Dalziel & Schoonover, 1988, p. 15)

Beckhard and Harris (1977), Tichy and Devanna (1986), Burke (1987), Van de Ven and Angle (1989) and Kilmann (1990) provided examples of a more technical approach to second-order change. An example of this perspective is Burke's statement, "Organization development is a planned process of change in an organization's culture through the utilization of behavior science technologies, research, and theory" (p. 11). Van de Ven and Angle (1989) suggested three stages, each with several processes, as the means by which to introduce an innovation into an organization. These stages are: *Initiation Period* (Gestation, Shocks trigger innovation, and Planning), *Developmental Period* (proliferation, part-time involvement and turnover, transitions in innovation personnel, and setbacks frequently encountered, outcome criteria shift, management involvement and roles) and *Implementation/termination Period* (implementing home-grown innovations, when innovation stops, and success/failure attribution).

The second group of writers, conceptualizers, present a much more organic approach to both first- and second-order change. They are struck by the diversity and complexity within organizations and see change, especially second-order change, as a

very challenging process. Levy and Merry (1986), Nevis (1987), and Lovelady (1989) are examples of this conceptualizer approach. Lovelady developed a model with up to ten different phases. Those phases are: initiation and contacting with clients, data collection and joint diagnosis, feedback and diagnosis, action planning, review and reappraisal, approval in the power system, actioning, review and reappraisal, more action, and continue/withdraw/fade. She

uses the analogy of links of chain; all are necessary for the chain to function and be effective. The links of the chain overlap, as do the phases of the change process. They cannot, therefore, accurately be described as steps or stages. The circuitous nature of the process is deliberate. Within this analogy it is possible to circle and hold at any point, or to come to a halt if the connection to the next link is not made. Finally, ... links can be removed or reinstated to suit circumstances. The environment and the way it influences this process needs to be seen as an integral part of the model." (Lovelady, 1989, p. 145)

Pava (1986) created a model of framing the change process that differs from the first- and second-order change frame. "For the purposes of managing change, two distinctions are critical in the social and technical aspects of the situation, respectively: (1) the degree of conflict between parties, and (2) the level of complexity in the conditions that must be altered" (p. 616). He found that combining the social and technical aspects and utilizing the two dimensions -- conflict and complexity -- to examine them yielded a two-by-two matrix with four different ideal change strategies. Pava believed that no single strategy is appropriate for all change situations.

(A) In low conflict/low complexity situations there is a common understanding of the issues and solutions and the target of the change is clear and relatively stable. The situation can be analyzed and a detailed plan of action developed.

(B) In high conflict/low complexity situations mistrust hinders participants from agreement on the course of action to take, though the various choices are rather clear. These situations can be resolved by bargaining, voting or other more formal mechanisms.

(C) In low conflict/high complexity situations the nature of the situation is unclear and may be changing rapidly, yet participants are willing to work together to find solutions. Highly participative approaches that incorporate all diverse interests prove to be successful.

(D) High conflict/high complexity situations resist all three of the above strategies.

Extreme contention undermines the explicit and orderly character of both normative systems redesign and master planning. Analytic solutions derived from master planning cannot be imposed amid great conflict. ... High complexity requires system-wide change, encompassing a variety of factors. Simultaneously, a high level of conflict makes an indirect approach necessary, to avoid polarizing groups that already diverge. This requires an indirect approach to systemic change, with unclear objectives, imprecise methods, disorderly action, and tacit emphasis on changing an entire system. (Pava, p. 619)

Self-definition of organizations

Maturana and Varela (1980) concluded that the most important task of a living system is its own self-definition. Whether a system defines itself or is defined by an outside observer, this definitional task is more fundamental than production or even the acquisition of resources. Without clarity about its own nature, a system does not know what resources it requires and what to produce. This is true whether a system is a solar system or a human organization.

A definition of a system describes

a *set of elements* that has an identity. It is distinguished from the rest of the world by *boundaries* It identifies the *relations* among sets of elements (in human groups, e.g. distance, affection, power). It frames the *rules that govern these relations* over time or form." (McWhinney, 1990, pp. 6-7)

The elements, boundaries, relations and rules of systems are not static. As pertinent

internal and external conditions change, systems modify in response. These system changes, whether in elements, boundaries, relations or rules, are both the vehicles for and expressions of systems redefining themselves. "In the course of self-organizing, an organization may become better in achieving a goal, or generally, in maintaining a stability under more variable conditions. It improves!" (Ben-Eli, 1981, p. 173). The challenge for a system is to balance making compensatory changes without losing critical parts of its identity. Maturana (1980) was particularly concerned with a system overstepping these limits and either disintegrating or becoming something fundamentally different from what it was before.

The determination of what is a unity and what is its domain is especially important when using a field theory perspective. This perspective assumes that everything is a whole and that boundaries are arbitrary. Thus, it is possible for two observers, using different criteria, to define two very different systems under the same conditions. These contrasting definitions are the foundation for conflict that occurs within organizations. Observers draw on their own experience and training to define the elements, boundaries, relations and rules that distinguish systems from their backgrounds. In human organizations, each participant in the organization (e.g., members, managers, employees, shareholders, suppliers, customers, competitors, etc.) will likely, at different times, function as an observer. Each observer will draw on her or his unique criteria to determine what the system is and what it is not. The accumulation of these observations creates a collective definition of the system, although the extent of influence of observers will vary greatly according to the variance in their own position in the organization.

This definitional process is made more complex due to there being two fundamentally different ways of describing boundaries. One might be referred to as

"territorial" since it definitively specifies what is contained and excluded from a particular system. This approach establishes very clear boundaries. An example of this type of boundary would be a system identified as "all employees of ABC company working in a particular city." The second approach could be labeled "essential essence" since it is used to determine what the elements have in common. Since this approach allows for matters of degree, the boundaries are much less clear. An example of this would be to define a system as containing all those working to improve employee working conditions. Frequently the two approaches are used in combination. An example of this would be a system defined as containing all employees of ABC company who are working to improve employee working conditions.

Systems, especially larger, more complex organizations, are likely to be continuously redefining themselves in the form of a wide variety of changes. Such changes are often in response to small or large changes in internal or external conditions as systems attempt to maintain stable relationships with their environments. These changes may be one form of the systems' efforts to avoid entropy, the natural inclination of systems to decline. They may also be an expression of the systems' attempts to reorganize in more complex and effective ways--a living system's objective. Nicolis and Prigogine (1977) found this "evolution toward increasing complexity and organization [to be] the result of structural fluctuations--mutations or innovations--that can appear suddenly in a previously stable system and drive it subsequently to a new regime" (p. 462).

Up to this point, the description of a system's definition process has been abstract. The actual definition process is much more concrete. Initial, formal definitions of an organization are likely to include the system's purpose, as explained in a mission statement and other public statements. The structure may be represented

through the use of an organization chart. The relations among elements and their tasks may be described in unit and individual job descriptions. These various descriptions are often communicated in both oral and written forms. The sum of these descriptions formally defines the system: who or what are the elements, individuals and groups which constitute the system and how they relate to each other and the organization's environment. This initial definition is most often completed by individuals who will function inside the organization.

Therefore, the intent of these communications is to regulate subsystem (individuals and groups) behavior. Such regulations are clearly definitional acts. All are illustrations of the regulating mechanism Brown (1980) called *leadership*. He identified four such mechanisms: leadership, informal culture, formal structure and technology.

Organizational *leadership* influences the behavior of individuals and groups in the organization directly, through specific decisions and actions, and indirectly by creating climates and setting examples. ... The *informal culture* of the organization includes the myths, rituals, languages, ideologies, and norms that govern and give meaning to behavior of organization members. ... The *formal structure* of the organization is its vertical and horizontal differentiation into levels and departments, and its formally defined rules, procedures, and roles. ... The *technology* of the organization refers to the processes by which inputs are converted into outputs. (Brown, 1980, p. 184)

Each of these regulating mechanisms is most often initiated by management but, once adopted by the whole organization, they are not so easily modified by management. They become the vehicles for future redefinition of the system, available to anyone who has the capability of accessing them.

It is important to note that management is not the only element of the system to have access to these regulating, defining mechanisms. They just traditionally have made most use of the mechanisms, primarily as a result of their assumption that it is

their responsibility and right to define the organization. Even when management includes others in the development and implementation of changes in the mechanisms, they continue to hold the value that management should be the defining force in the organization. In traditional, hierarchical organizations, other individuals and groups usually initiate and implement changes in these mechanisms in a much less coordinated manner. They respond to specific situations that directly affect them through limited changes in defining mechanisms. The exception would be groups, such as unions, which develop a role as a counter force to management.

Another way of describing these mechanisms is to look at how aspects of the organization's definition contribute to both the flexibility and stability of the organization. Buckley found "that a sociocultural system with high adaptive potential, or integration as some might call it, requires some optimal level of both stability and flexibility" (1967, p. 206). The very nature of these defining mechanisms lend themselves to establishing this balance. More stable elements of the regulatory mechanisms provide a continuity, a foundation for the organization, while the more flexible elements support the system in responding effectively to environmental changes. This balance is reflected in many aspects of leadership and informal culture. Brown (1980) referred to this as *degrees of freedom*, which refers to how strictly regulatory mechanisms define and constrain subsystem behavior. The worker on a circuit board assembly line, with each step of the process defined, has fewer degrees of freedom than the software writer who has many alternative approaches available to solve particular problems. In this example, even technology can be seen to vary in flexibility.

What arises at this point is the issue of creativity. Creativity can be exhibited in the execution of assigned tasks within a current definition and it can impact the

definitional process itself. Maturana (1980) and Prigogine and Stengers (1984) explored the manner in which new definitions are created. Both examinations found that in order to challenge and possibly initiate change in an existing definition, an individual or group must vary from the norm. Prigogine and Stengers called this phenomenon *fluctuations* and Maturana called it *social creativity*. The more constraining the regulatory mechanisms, the more difficult it is for this type of creativity to be expressed. "Social creativity, as the generation of novel social relations, always entails interactions operationally outside the society. ... Social creativity is necessarily antisocial in the social domain in which it takes place" (Maturana, 1980, pp. xxvii-xxviii). However, Prigogine and Stengers did not find these fluctuations to be the "cause" of redefinition. Rather, fluctuations from the norm are contributing factors that are reinforced by positive feedback. Therefore, redefinition is a possible consequence of situations in which positive feedback is present and fluctuations are reinforced. Positive feedback often arises in situations where conditions have changed and previous solutions are less effective. Fluctuations from past norms that prove to be more effective are likely to be reinforced.

The way a system is defined can have dramatic effects on the actions taken both within the system and by those outside. The definition of a system, especially when considering human organizations, does not reside within a single individual or group of individuals who are simply elements within the larger system. The definition of a system resides within everyone who takes on the role of observer, even for a moment, and defines the organization. Managers of organizations usually assume that they are the creators and keepers of the definition. They create and keep *their* definition but it is not necessarily the *collective* definition, the one constituted by the most commonly held definitional components. Due to position and other attributes, there is great

variance in how influential one observer or group is regarding the collective definition of the system. It is this collective definition that has the most influence on the system itself. In some organizations this collective definition is closely aligned with that of management, while in others there may be great disparity. Because the collective definition is created by a combination of many definitions, it is much harder to directly modify than it would be if there was one accessible "truth."

Concluding remarks on organizational change

Organizational change is not just another task to manage. Traditionally, managers have been taught that their role is to plan, organize and control (e.g., Haimann, Scott and Conner, 1978). This is an analytical process leading to a rational plan that can be precisely implemented. Organizational changes, especially second-order changes, do not lend themselves to this approach. The number of factors involved, particularly imprecise people factors, make this approach fraught with potential catastrophes.

Given the diversity of change situations as described by Pava (1986) and Meyerson and Martin (1987), the nature of first- and second-order changes and the array of strategies and tactics available, managers and leaders are challenged to understand their role and to choose an appropriate course of action. It is sad that so many managers, oblivious to the blindspots arising from working within the American culture, limit themselves to utilizing primarily cultural Paradigm 1 and focus on first-order change. Their tendency to take a very directive/controlling approach, and to expect very specific results, which works well in some situations, becomes problematic when used in all situations. A dramatic example of this approach is the statement by Leathem:

There are two basic approaches to implementing change. These are:

- The hammer approach, where the change is driven to full implementation no matter what, or
- The sales approach, where the change is implemented only after it has been successfully sold to all affected groups in the organization.

Both of these choices are valid; the appropriate choice will depend upon the situation and the time available to react to the circumstances driving the change. (1989, p. 43)

Leathem's approach leaves little doubt that the targets of change would have little choice or significant input into the nature of the change. There are alternatives to these traditional, power-based models for addressing organizational change. These models not only identify different cultural paradigms and types of changes, they also identify alternative strategies and tactics for those initiating changes. In turn, there are alternative interpretations of behaviors of those expected to participate in the change process. Any behavior other than that meeting specific expectations would appear obstructionist and would, therefore, be labeled "resistance."

Resistance To Change

Themes in the literature

A number of themes are common in the literature on resistance in organizations. Several of these were evident in the first major study on the subject, the classic study by Coch and French in 1948 entitled, "Overcoming Resistance to Change." Themes initiated in this study were: (1) Resistance is a problem to be solved; (2) Resistance is behavior that thwarts the achievement of management's objectives; (3) Individuals who resist have suffered or risk suffering loss of self-esteem; and (4) Participative methods effectively avoid or reduce resistance.

Coch and French investigated the resistance of production workers to changes in jobs at a clothing factory in Virginia. "From the point of view of the factory management, there were two purposes to the research: (1) Why do people resist change so strongly? and (2) What can be done to overcome this resistance?" (p. 512). Coch and French found that "In addition to resentment against the management for transferring them, the employees typically show feelings of frustration, loss of hope of ever regaining their former level of production and status in the factory, feelings of failure, and a very low level of aspiration" (p. 516). The authors initiated an experiment in which they involved workers in the planning of changes. Productivity was dramatically higher for the individuals who had the chance to participate in such planning. Coch and French concluded, "It is possible for management to modify greatly or to remove completely group resistance to changes" (p. 531).

Coch and French did not specifically define what they meant by resistance. Their study focused on the drop in production of experienced workers after a transfer. Most studies that followed associated the existence of behavior that thwarts reaching management's objectives with resistance. The word resistance implies an intent of behavior, rather than just the behavior itself. Zander (1950) has been one of the few authors to address this definitional problem.

How can one recognize when resistance is working? Unfortunately, there is no list of typical behavior which can be described as symptoms of resistance, which, if present, indicate that one is dealing with this phenomenon. It is the protective function which the behavior is providing which determines whether or not a person is resisting, rather than the kind of thing he does. By the same token, all behavior which opposes change is not necessarily resistance. Some opposition to change may be perfectly logical and grounded on well-supported reasons. The behavior must be attempting to protect the person against the consequences of the change in order for it to be resistance. (Zander, 1950, p. 9)

Zander was clear that it was the *intent* of the behavior rather than the behavior itself that constituted resistance. He also differentiated between resistance and reasonable opposition. These are two themes that have only sporadically been distinguished in the literature. It has been most common for the literature to focus on the behavior and to define all less than desired responses to change as resistance.

Lawrence added an additional theme in 1954. His thesis was "that people do *not* resist technical change, as such and that most of the resistance which does occur is unnecessary" (p. 49). He contended that people resist social changes. "The social aspect of the change refers to the way those affected by it think it will alter their established relationships in the organization" (p. 52). In this distinction there are elements of what would later be the differentiation between first- and second-order change.

The two purposes of the Coch and French study were to better understand why people resist change and to find ways to overcome the resistance. The problem-solving nature of the second purpose has been the driving force for this and most later research. The other themes have become subordinated in the search for more effective ways of overcoming resistance. Examples of this focus are: Levinson (1972), Mealiea (1978), Calish and Gamache (1981), Berry (1983), Caruth, Middlebrook, and Rachel (1985), Woodward and Buchholz (1987), Davidson (1991).

Rarely have orientations, significantly different from those described above, appeared in the literature and when they have appeared there has been little or no further exploration of these alternative themes. Zander (1950) suggested that some behavior that had been labeled as resistance might have had a rational foundation and therefore should not have rightfully been classified as resistance. This also implies that behavior that he considered to be resistance should be considered irrational. The most dramatic

departure from the traditional approach to resistance was Klein's 1976 contribution to the third edition of The Planning of Change, edited by Bennis, Benne and Chin (retained in the fourth edition (1985)). He proposed the concept that resistance to change might be desirable because it defends important elements of the organization from less productive changes. That the resistant behavior might have benefits to the organization, and not just to the individual, was a significant departure from previous themes in the literature. Except for a few, scattered references to Klein's idea, almost no further exploration has taken place on this theme. Wheeler (1991), without reference to Klein's concept, explored a major aspect of this theme in his discussion of how resistant behavior helps define an organization. Jaffe and Scott (1990) suggested that much of what is labeled as resistance is simply a problem of pacing; managers are further along in the process of change and expect their subordinates to immediately be at the same place in the change process as they are. Normal denial behavior is therefore labeled as resistance.

Attribution process

How and when labels are applied is an important aspect of an examination of resistance. Resistance is a label that is attached to specific behavior and associated with particular people. Under what conditions that label becomes identified with behaviors and people is a focal point of this study. Nevis (1987) made an important observation about these conditions:

Resistance as a concept or as a manifestation has meaning only where there are power differentials among people. Those with less power cannot easily say "no" to something, and so they fall back on reactions that are then labeled as resistance. To understand this, we must recognize that to say "no" to something is not the same as to resist. To say "no" is a clear

response that is made among presumed peers who have differences of interest or opinion. ... Recipients of "no" statements may not like to receive this reaction but they will usually experience it as having much more focus and clarity than what they perceive to be manifestations of resistance. ... Those with less power will use indirect no's if they do not readily accept influence or do what others want them to do. (pp. 144-145)

While a few authors (Lawrence, 1969; Argyris, 1970; and Nevis, 1987) have suggested that managers can also be resistant to change, nearly all writers have focused on the labeling of subordinates as resisters to change and what can be done to overcome that resistance.

Labeling specific behavior as resistance or a particular person as a resister is an attempt by the person applying the label to explain the behavior. The behavior is explained when it is attributed to a resister, e.g., the type of behavior to be expected from a resister. "Historically, attribution theory dealt with an individual's attempt to give meaning and coherence to the behavior of another person in terms of relatively stable disposition of the person or the environment" (Ajzen & Fishbein, 1983, p. 64).

The observer will attempt to infer a simple, plausible explanation for the actor's behavior. Unlike the scientific observer, who may be seeking a very complex explanation of behavior, the observer will usually find one of two types of explanations is sufficient to explain the actor's behavior: (1) *An enduring disposition of the actor, an attitude or personality trait, caused behavior.* ... (2) Strong pressures from the environment or another person caused the behavior." (West & Wicklund, 1980, pp. 117-118)

West and Wicklund suggested a number of factors which affect this attributional process. The first is the social desirability of the actor's behavior. Does the observer think an average person would act in the same way in similar circumstances? If the observer thinks the average person would, then the observer is less likely to make inferences about the actor. How much choice an actor has is a second factor. The more choice the actor is assumed to have the more likely the observer will make inferences. A third factor is the extent to which the actor's behavior affects the

observer's outcomes, either positively or negatively. West and Wicklund found that when this investment was present,

an additional factor becomes important in the inference process. The observer attempts to determine whether the actor chose to behave in a given manner because of the observer or for some other reason. If an action is directed specifically toward the observer, it is high in personalism. ... Actions high in personalism lead to more extreme inferences than actions low in personalism. (p. 123)

Jaspars, Ficham and Hewstone(1983) explored attributions made when the observer identified the actor as a member of her own group or someone outside her group. Group membership or lack of membership was found to have an effect on how the actor was characterized. "Such an approach shows why reality and stereotypes become indistinguishable when only ingroup consensus exists" (p. 30). Whether a manager identifies with a subordinate as members of a common group may have a significant effect on the manager's attributional process.

Managers are not the only parties making attributions at these times. Actors are also creating attributions for their own behavior. West and Wicklund (1980) explored this phenomenon and found that actors focus their attention on situational factors.

The actor's own behavior, from the actor's perspective, is just background. This means that actors will weigh situational constraints more heavily in the inference process than observers will. Actors will usually perceive situational factors as the cause of their behavior, while observers will typically perceive the actor's disposition as the cause of the behavior. (p. 125)

Dell (1982) explored how resistance is created in psychotherapy. He proposed three ways in which we create a dynamic in the patient the therapist labels resistance: (1) by expecting someone to act in a certain way by virtue of who they are and how they are structured; (2) by expecting someone to respond in a particular way to an intervention; and (3) by assuming that change is a function solely of the intervention used to bring it about. The observations he made in the psychotherapy context are

directly applicable to organizations, especially in examining the attribution process.

Dell rejected the notion of resistance due to his belief that individuals can only act in the way they are structured to act. He elaborated on this theme.

Every system (person, family, institution, etc.) has its own organization, its own coherent identity, that fully specifies how the system will behave in *any* and every situation. The system has no choice; it always functions in the way that it is organized to function. It *never* functions in a way that it is not organized to function. ... If we expect a patient to act in a certain way and cannot accept that she or he acts otherwise, then we have made an epistemological error and created "resistance." (1982, p. 30)

A second way to create resistance, in Dell's opinion, is to expect a patient (subordinate) to respond in a particular way to an intervention. When the expectation does not come true, the intervenor can either assume that he made an error or that the subject of the intervention is resisting.

The final way to create resistance is to believe in control. Dell thought that interventions do not cause change. "The organization of the system (i.e., patient) determines what will happen, *not* the intervention. Put simply, man proposes, but the (organization of the) system disposes" (p. 30). Dell summarized his belief that resistance is only in the mind of the initiator of change when he said, "there is no such thing as *resistance*; there is only misunderstanding, by the change agent, of reality or refusal to accept reality" (p. 31).

Actions to reduce resistance

The literature is dominated by books and articles designed to help troubled managers find their way through the change process to success. Desired changes have failed to be implemented because of problems that have arisen during the implementation process. Thus actions suggested to managers fall into three general

categories: (1) Plan as completely as possible. Anticipate all possible barriers and have tactics ready to overcome them. (2) Communicate as fully as possible. Make sure that subordinates have the information they need to cooperate. (3) Establish a climate that invites participation. Participation is not assumed to be a panacea, but is suggested as a critical tool for the manager (Levinson, 1977; Mealiea, 1978; Calish & Gamache, 1981; Odiorne, 1981; Berry, 1983; Wright, 1984; Caruth, Middlebrook & Rachel, 1985).

Alternative interpretations to behavior labeled "resistance"

When the resistance *does* appear, it should not be thought of as something to be *overcome*. Instead, it can best be thought of as a useful red flag -- a signal that something is going wrong. To use a rough analogy, signs of resistance in a social organization are useful in the same way that pain is useful to the body as a signal that some bodily functions are getting out of adjustment. The resistance, like the pain, does not tell what is wrong but only that something *is* wrong. And it makes no more sense to try to take a pain killer without diagnosing the bodily ailment. Therefore, when resistance appears, it is time to listen carefully to find out what the trouble is. (Lawrence, 1954, p. 56)

Although the literature is dominated by "pain killers," there have been periodic references to alternative perspectives on resistance. Two perspectives that will be explored here are that of the person who is targeted for change and a wider systems perspective.

The most common alternative has been to look at change situations from the perspective of the person(s) being asked/required to change. This position has been most specifically and forcefully articulated by Klein (1985). This perspective has also been addressed by Kaufman (1971), Kotter & Schlesinger (1979), Kotter, Schlesinger, & Vijay (1979), Sheldon (1980), Motamed (1985), Kaiz (1985), Merry and Brown

(1987), Nevis (1987), Lawler (1990), and Wheeler (1991).

Looking at this behavior from the perspective of the target of change, Klein (1985) believed that the behavior that is most often considered to be irrational resistance is more likely to be efforts by members of the system to protect the system from a real threat. The person labeled as a resister is probably a spokesperson for the inner core of traditional values in the organization. Even people who are considered to be so irrational as to be called "crackpots," must be heard.

It is important for those seeking change to consider the costs of ignoring, overriding, or dismissing as irrational those who emerge as their opponents. To ignore that which is being defended may mean that the planned change itself is flawed; it may also mean that the process of change becomes transformed into a conflict situation in which forces struggle in opposition and in which energies become increasingly devoted to winning rather than to solving the original problem. (Klein, 1985, p. 103)

A wider perspective than a focus on either the change initiator or target of change is a system-wide perspective. Very little has been written from this viewpoint, especially regarding resistance to change. What has been written on this topic has been an expansion of ideas spawned from looking at change from the viewpoint of the person targeted for change. From this perspective resisters function in a lead role in the autopoietic system's effort to maintain its self definition (Maturana & Varela, 1980; Goldstein, 1988). This correlation between the perspectives of the target of change and the wider system is in alignment with the concept in attribution theory that the person being observed, in this case the target of change, will focus on situational factors while the observer will focus on personal characteristics of the person being observed.

An additional systems perspective that apparently has not been applied to the experience of resistance to change is the employment of theories depicting the movement of conflict in organizations. Two major concepts, *triangulation* (from social

psychology and family therapy) and *splitting* (from anthropology and clinical psychology) (Smith & Berg, 1987; Smith, 1989), appear to be particularly helpful in reframing some conflict situations that become labeled as resistance. Smith (1989) contended that conflict moves around in organizations, expressing itself in locations other than where it originated.

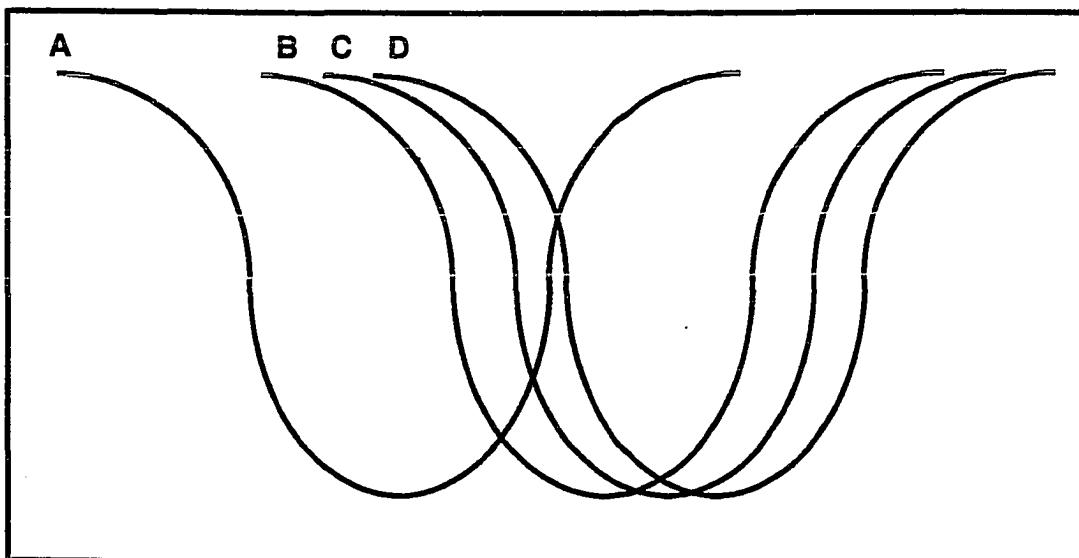
Two settings may be connected in such a way that conflicts can be passed from one to the other, making it possible for all the tension to be released at one place on behalf of both parties. Or the two settings may swap them around so that each expresses the conflicts 'belonging' to the other location. (Smith, 1989, p. 1)

One of the ways this occurs is through triangulation. In this concept a third party is drawn into a conflict between two other parties. Additional parties can be drawn into the conflict to reestablish balance and who are then aligned with one side of the conflict or the other. Conflict between these new parties is actually an expression of the original conflict. One extreme case of triangulation is *scapegoating*. The concept of splitting was defined by Laing (1969) as partitioning of a set into two subsets, such as when an infant has ambivalent reactions to her parents. Dissonance is experienced when both love and hate are felt towards each person. The dissonance is resolved by associating all the good feelings with one parent and the bad ones with the other so the contradictory feelings appear to come from different sources. Smith and Berg proposed that this same phenomenon happens in organizations.

The management of this splitting leads directly to the generation of a triangle with the three prongs being (1) self, with deeply ambivalent feelings, (2) an external person (object) who is made the repository of the "good" projections, and (3) another person who becomes the repository of the "bad," enabling the self to be experienced as whole. (Smith, 1989, p. 8)

A final way to explain behavior that is labeled as resistance, using a systems perspective, is to see it as a difference in pacing. Pacing becomes an issue when people start into the change process at different times and/or proceed through the phases of the

Figure 3 - Pacing differences in adopting change



process at different rates. Their perspective of the change process is based on where they are personally in their own cycle. The transition curve developed by Jaffe and Scott (1990) provides a dramatic visual demonstration of this phenomenon (see Figure 3). Person "A," who most likely will be the initiator of the change, passes through the early phases of the change process -- *Deny* and *Resist* -- before the decision is made to initiate the change. Person "A" has reached the *Explore* or *Commit* stage when the change is rolled out to the rest of the organization. Person "A" is now future oriented while the balance of those involved with the change are still looking to the past. To Person "A" this past orientation of the others may look like the stereotypical resistance. It is, instead, the normal movement through the process of change. Given patience and understanding of the process by Person "A," most, if not all, of these change participants will move from those past-oriented phases into the future-oriented phases of *Explore* and *Commit*. To attempt to force individuals to move through the process

more quickly than their capacity for change will result in individuals who will most likely return to those unfinished phases at some time in the future (Jaffe & Scott, 1991).

Final thoughts on resistance

Resistance is a label applied to individuals who appear not to fully participate and/or cooperate with an organizational change. Labeling is an attempt by the manager or consultant to explain/categorize this undesired behavior. The act of applying the label implies that a significant power differential exists between the two parties since such a label is rarely used openly for behavior of an equal or someone higher in the organizational hierarchy. The literature has devoted significant attention to this "problem of resistance," and has attempted to provide a better understanding of the situations and particularly what the manager can do to overcome or avoid the resistance. The literature is clearly biased toward the perspective of the person applying the labels. This consistent bias is inherently disrespectful towards those individuals who are asked/directed to change. There is a need to both respect and support efforts of these targets of change to maintain their personal integrity, as well as respect and support the integrity of individuals initiating change, as both parties struggle to deal with the increasingly dynamic pace and nature of change in organizations.

CHAPTER III

STATEMENT OF THE PROBLEM

Situation Overview

Organizations and the individuals who comprise organizations are being increasingly challenged by the quantity and nature of the changes that are impacting them and that they are effecting themselves. There is often a nostalgic look to the past where more stability is remembered. This relative stability of the past is being replaced by a permanent sense that everything is temporary. The challenge arises from the need to reorient both organizations and individuals to be self-sustaining and productive under these new conditions. Many organizations already have not survived this challenge. Many individuals who were part of these or other organizations have had their connections with their organizations involuntarily severed. Other individuals have remained a part of their organizations but have experienced their organizations changing dramatically around them.

Change processes have been the focus of increasingly intense investigation during the 20th century. Early in the century primary attention was paid to change within individuals, but after 1950 attention focused increasingly in the area of organizational change. Until 1970 nearly all of that attention was paid to what is considered first-order change: specific changes that could be planned and controlled for a known outcome while maintaining the same world view. After 1970 the concept of second-order change began to appear. Second-order changes are less specific, plannable, and controllable for a particular outcome; in addition they embody a change in world view. First-order changes are assumed to be based on a logical rationale that

identifies the merits of the change. Second-order changes do not have a similar rationale and therefore the merits are much harder to identify.

Nearly all of these explorations have described the change process from the perspective of the person who initiates, plans, controls, encourages, and/or facilitates change in organizations. This bias toward the perspective of this agent for change creates an enduring impression of those individuals who are targets of the change as reactionary participants in the process of change. Their compliance is assumed and behavior that deviates from what is expected is considered to be problematic. The focus of much change-related activity, therefore, became oriented towards overcoming or avoiding resistance to a particular change. The concept of resistance, and the many reactionary responses to the presence or anticipated presence of resistance, was developed in a first-order change frame of reference.

There is a perspective that challenges this traditional approach to organizational change. This perspective arises from synthesizing the concepts of organizations as fields of forces and of organizations as engaged in a continuous process of self-definition as systems. This approach provides a new perspective for examining the roles in both first- and second-order change situations. It also provides a new perspective for examining the dynamics which are common between (1) situations where change is expected to be planned and controlled and (2) situations where change is an unplanned, uncontrolled series of local adjustments. In each of these situations there is a balance maintained among the forces within an organization. These forces include the forces for change and the forces for stability. This balance contributes to the definition of the organization as a system.

Using this new perspective, individuals who are labeled as resisters may also be considered agents of stability. They may likely have very different experiences of the

change than that of agents of change. The changes may be viewed by agents of stability as serious threats to the inner core of tradition and values of the organizations. The individuals then act in ways they deem appropriate to uphold those traditions and values.

The increase in pervasiveness of second-order change is radically shifting the roles of those involved with creating change. Many individuals who initiate change in organizations tend to primarily use the old paradigm that assumes that there is only first-order change. They need to adopt a new paradigm that not only recognizes that they are now regularly encountering both first- and second-order changes but also that agents of stability are playing an important and necessary role in the organization. With diminishing results, many people are trying to apply the old paradigm more effectively through increased effort and concentration. Their more frequent failure is setting the stage for the adoption of the new paradigm.

The Literature

The literature has continued to reflect a bias toward the person initiating change while beginning to provide both general direction and specific guidance in the process of second-order change (Ackerman, 1984; Harrison, 1984; Heller, 1984; Levy & Merry, 1986; Tichy & Devanna, 1986; Fletcher, 1990). The literature has also demonstrated a bias toward the American male's perspective -- particularly a priority on personal achievement. Until recently, nearly all contributions to the literature addressing these questions have been written by males about males. Four women, Ackerman, Heller, Devanna and Fletcher (identified above) reflect a break in that tradition. More specifically looking at alternatives to the traditional male perspective,

including dealing with change, have been Sargent (1983) and Helgesen (1990).

The literature discussing second-order change has presented a new paradigm for bringing about such change (Levy & Merry, 1986; Tichy & Devanna, 1986; Fletcher, 1990; Kilmann, 1990; and Kouzes & Posner, 1990). This paradigm is based much more on group cooperation and less on individual achievement found in most first-order change approaches (Dalziel & Schoonover, 1988; Leathem, 1989; and Zeira, 1989). This new paradigm does not discuss in-depth the role of change participants who exhibit behavior contrary to expectations. It does emphasize that the targets of change have an important role to play.

In 1954, Lawrence clearly stated his warning: "When resistance appears, it is time to listen carefully to find out what the trouble is" (p. 56). Nearly 40 years later, many managers are still searching for effective ways of doing this. This task is evolving because of the introduction of new concepts, tools, and even paradigms.

Lewin (1948, 1951) presented his concept of the dynamics arising from constant interaction among the various forces in what he referred to as a field of forces. Maturana and Varela (1980) explored the self-defining nature of systems and the primary importance of that role. The balance of forces in the force field can be viewed as one expression of the system's self-definition.

Klein (1985), in an article originally published in 1966, presented the most definitive statement about the need to not only listen to what these "resisters" were saying but to affirm their contribution to the health of organizations by the very acts that were labeled as resistance. This model has not been readdressed in 25 years.

Meyerson and Martin (1987) presented a model for looking at different cultural paradigmatic views of change. This frame has not been utilized in looking at the concept of resistant behavior.

Adler and Jelinek (1986) presented a view on the impact of American culture on American organizations and the concept of organizational culture. This frame has not been utilized in looking at the concept of "resistant" behavior.

Research Questions

What is lacking in the literature is a definitive presentation of how the roles and activities of *both* agents of change and agents of stability are important to the health of organizations. These behaviors and their interactions need to be placed in a context that includes not only larger-scale organizational changes (changes initiated by and expected to be controlled by management) but also the day-to-day adjustments of organizations (changes initiated throughout an organization and beyond the awareness and control of management). Second-order change is proving to be a formidable experience for many organizations as the forces for change and forces for stability engage in a dynamic, yet often subtle, struggle to find new balance points. Better understanding of these dynamics are needed.

Some of the questions which will serve to focus this study will be:

- How can the definition of systems, especially conflicting definitions, be identified?
- How do the interactions between the forces for change and forces for stability contribute to the evolving self-definition of the organization as a system?

- How does organizational change contribute to and/or express the definitional process?
- How can the understanding of the nature and dynamics of the definition of a system, especially the interaction between the forces for change and the forces for stability, contribute to the understanding of organizational change processes?

CHAPTER IV

METHODOLOGY

Introduction

Research into individual and group social behavior is both an exciting and frustrating process. Social scientists make their observations of social events and then attempt to describe and/or explain what they have observed. This is usually an exceedingly challenging task. Blalock (1970) described this situation well when he said,

One of the basic difficulties that we encounter in social research ... is the fact that in the real world a large number of variables are found to be highly interrelated. This means that their causes and effects are hard to disentangle, and there may be almost as many theories or explanations as there are people to formulate them. (p. 6)

Yet, in spite of this major barrier, social scientists continue to search for understanding and ways of communicating the understanding they achieve.

In this challenging task, it is a combination of the nature of the observations themselves and the way in which the reporting is organized that determines how well the situation has been described and/or explained. Kaplan (1964) distinguished between what he considered to be direct and indirect observations. Direct observations are based most often on concrete evidence that remains after the event. What is implied here is that the observations "lend themselves to easy and confident verification" (p. 54). Indirect observations are more subtle and complex. They are observations that usually entail the use of inferences. Because of a previously accepted relationship or past observations, a connection, often causal, is inferred in the current situation. "If the

inference is justified, they are as much a part of the furniture of the world as are the trappings named by observable terms" (Kaplan, p. 55). Abell (1971) reflected this distinction in the types of observations when he referred to them as (1) observational concepts which are experienced by the senses and (2) theory concepts which are not.

It is through the organization of the observations, whether direct or indirect, that meaning is associated with a particular event. Traditionally, this presentation of observations and their meaning has been called a theory and/or a model. Kaplan described a theory as "the device for interpreting, criticizing, and unifying established laws, modifying them to fit data unanticipated in their formulation, and guiding the enterprise of discovering new and more powerful generalizations" (p. 295). Models are offered as an appropriate form for the presentation of a theory when an analogy--in the form of a sentential model, a tangible model, or a metaphor--advance the understanding of the phenomena observed (Harré, 1976, Kaplan, 1964, and Lave & March, 1975). Kaplan attributed to models "functions that would be performed by any theory, whatever its style" (p. 268). Although in some contexts models and theories may differ, in the context for the dynamic model of systems change, the terms model and theory can be used interchangeably. Both are representations and/or explanations of real world phenomena. Both provide a framework to organize and understand significant findings. Models can, therefore, be studied and contribute to understanding the phenomena modeled.

Models

A model is a simplified picture of a part of the real world. It has some of the characteristics of the real world, but not all of them. It is a set of interrelated guesses about the world. Like all pictures, a model is simpler than the phenomena it is supposed to represent or explain. (Lave & March, 1975, p. 3)

Models chosen to explain a particular phenomenon may differ greatly both in their origins and in the fundamental ways the phenomenon is explained. In some societies, the eruption of a volcano is still seen as an expression of anger by a god, just as droughts and floods have been similarly interpreted by other societies. Interactions among people (e.g., emotional responses such as anger) are seen as the model for understanding experiences in a larger world. This may include activity attributed to gods. Interpreting the eruption of a volcano utilizing this model results in very different actions by these people than assessments and actions of people who use a model of plate tectonics, based on the assumption that the earth's crust is composed of a series of plates moving in different directions. One group may look for ways to appease the angry god while the others may be attempting to measure the rise of magma inside the volcano resulting from the interaction between two plates. Each model is accepted as true by its adherents and provides guidance for action. Neither model can currently be absolutely proven to be true or false. Over time, each model has endured the rigor of being tested repeatedly and found to be useful, by its adherents, in its depiction of eruption events.

Scientific-inquiry-values models are founded on a base of direct observations that can be easily and confidently verified, although this very advantage is also a limitation when direct cause-and-effect relationships fail to be clear. Therefore, for

scientific inquiry, seismographic readings from the sides of the volcano are much more acceptable indicators of potential sources and causes for the lava flow than an assumption that the presence of a lava flow means the god is angry. A connection between lava flow and anger cannot be tested. The angry-god model contains a circular argument: (1) An angry god spews forth lava while an appeased god is quiet. (2) The presence or absence of lava is also evidence of the god's emotional state. The model cannot be disproved. The use of the plate tectonic model leads to developing testable hypotheses about the particular volcano and guidance in where and how to conduct further inquiry. The model can be proven to be false.

In this example, the differing models used to explain eruptions are analogous for more general use of models in describing and explaining phenomena. It is, as Harré described it, "a representative device" (p. 16). It is in this role of representing a real world situation that models excel. The complexities and interrelatedness of real world situations can overwhelm the inquiring mind with data. Models distill essential elements of real world situations and present them in a way that can be much more easily comprehended. Models may therefore be considered to be analogies. Kaplan used the term *isomorph* --something with a similar structure or form--to describe this relationship. The relations between the two structures, model and real world phenomenon, are assumed to be parallel. Relations between two elements in the model are expected to also be true between parallel elements in the real world phenomenon.

Because each model provides a simplified presentation of a much more complex reality, different types of models may be necessary to more fully communicate these complexities. Lave and March (1975) used models of trains as a means to describe various types of models. The traditional scale model of a train is the tangible, plastic

and steel model that outwardly resembles the physical appearance of a train and how it looks when it moves. While this model can lead to useful generalizations about real trains, it does not provide information on how a train is actually powered. A schematic diagram, a model, of a train's power plant and energy transfer process would provide that information but little, if any, information on what the train looks like. How a model is depicted (e.g., a tangible reproduction of the reality being modeled, a type of flow diagram, or a series of descriptive sentences) depends upon the nature of the reality being modeled and the types of information to be communicated about it.

In the above example regarding the train, the models are created using known information about the phenomena being modeled. Speculative models are much more common in both the physical and human sciences. They are attempts to use both known information and speculative information to provide descriptions and explanations of phenomena in the world. The term *model* can be used as "a generic term for any systematic set of conjectures about real world observations" (Lave & March, 1975, p. 4).

The nature and use of models is simply the "predicting, understanding, influencing, and appreciating human life" (Lave & March, p. vii). Different observers may select different information as important when observing similar phenomena. This certainly has been true of those individuals examining how change takes place in individuals. William Bridges (1980) describes this process in three stages: endings, neutral zone, and beginnings. Marvin Weisbord (1990) proposed four phases for individual change: *Contentment, Denial, Confusion, and Renewal*. Jaffe and Scott (1990) describe four stages: *Deny, Resist, Explore and Commit*. (see Chapter Two for more details on each of these models).

Each of these models fits the description of what Kaplan called the *Pattern Model*, as opposed to the *Deductive Model*. "We know the reason for something either when we can fit it into a known pattern, or else when we can deduce it from other known truths" (p. 332). Understanding of the situation arises from being able to identify it as part of an organized, understandable whole, the pattern defined by the model. Harré clarified this further, "The task of explanation requires answers both to the question of the conditions under which the patterns are created, and the question as to the mechanisms which generate them, under these conditions" (p. 20).

The models provide not only an understanding of a situation but also predict what else will be found in the situation being modeled.

If the alleged pattern *is* a pattern, we can expect to find such and such other elements in these and those places. ... For the pattern model, objectivity consists essentially in this, that the pattern can be indefinitely filled in and extended: as we obtain more and more information it continues to fall into place in this pattern, and the pattern itself has a place in a larger whole. (Kaplan, p.335)

Steps to Develop a Model

Models are analogies of real world phenomena. They are simplified representations that speculate about the processes that could have created or influenced what is observed. Lave and March describe a very basic model for developing models.

Step 1

Observe some facts

Step 2

Look at the facts as though they were the end result of some unknown process (model). Then speculate about processes that might have produced such a result.

Step 3

Then *deduce other results* (implications/consequences/ predictions) *from the model.*

Step 4

Then ask yourself *whether these other implications are true and produce new models if necessary* . (Lave & March, 1975,pp. 19-20).

There are skills that Lave and March identified as necessary to take the formation of models from just a practical exercise into the realm of art. The first is an ability to abstract from reality to a model. This is the distilling of an abstract representation from the complexities of the real world. The second skill is an aptitude for derivation within an abstract model. It is through these implications that models become rich. The more significant the implications derived from a model, the more useful the model. The third skill is competence at evaluating models. It is important to be able to discern a good model from a bad one, even if it is one's own model. Some models can derive inaccurate implications while others may lead to immoral consequences. The fourth skill is familiarity with some common models. Although there are many models describing human and group behavior, there are a few models, such as the four described above, or their variations, that are applied in a wide variety of situations.

Lave and March presented three general rules for model building. Their first rule is to *think process*. A model must explain relationships rather than just being a statement that a relationship exists. A test for a model is to see if a relational statement can be derived from the model (e.g., "The greater X is, the greater Y will be" [p. 41]). The second rule is to *develop interesting implications*. If the model is true, then this implies that other elements of the analogy will also be true. These implications should

be testable. The third rule is to *look for generality*. "Ordinarily, the more situations a model applies to, the better it is and the greater the variety of possible implications" (p. 42).

Evaluation Process and Criteria

Blalock (1970) observed that the complexity of the real world could result in as many theories or models "as there are people to formulate them" (p. 6). Each model reflects a specific, often unique perspective on reality. Evaluation of models entails not only examining a specific model but also a comparison to other models that purport to explain the same phenomena. Models, unless found to contain critical information that is not true about the phenomena, are not likely to be judged as in error and discarded for that reason. Instead, models are compared to each other and some are found superior to others. It is generally more useful to compare models than to evaluate one singularly. Lave and March suggested criteria for evaluating models, both singularly and comparatively. The criteria suggested are truthfulness, beauty and justice.

"To assess truth value, we must be able to compare assertions of the model with observations of the real world. In short, a good model must be testable; it must make assertions that can be verified or disproved" (Lave & March, p. 52). While assumptions in a model should be clearly specified, it is much more difficult to test assumptions than it is to test the derivations/implications/predictions of the model. This evaluation is often more easily accomplished when the model has more than one variable identified. The model could be tested in situations where those variables naturally vary. Models which are based on circular reasoning, such as the volcano and

the god, are not amenable to be tested for their truthfulness.

Lave and March have asserted that the formulator of a model must be willing to discover that the new model is wrong. "Having tried as hard as we can to define a true model, we are then (contrary to any reasonably normal human behavior) expected to delight in finding out what is wrong with it. The problem is to avoid 'falling in love' with our models, or prejudices" (p. 60).

Beauty in models is a reflection of their creation process as an art form. Lave and March presented three aspects of beauty that affirm the importance of this aesthetic criterion. "*A beautiful model is simple.* A theory that has a small number of assumptions is more attractive than one having a large number of assumptions" (p. 61). When two models, with differing assumptions, predict the same outcome, the preferred model will have the fewer assumptions. "*A beautiful model is fertile.* It produces a relatively large number of interesting predictions per assumption" (p. 64). It is in this predictive role that models become more useful than just providing descriptions. The predictions direct further exploration and allow for anticipation of future events. A fertile model possesses generality in that it applies to situations beyond the immediate one being explained. Often it is simply a matter of choosing more general nouns and verbs rather than ones tied to the specific situation. "*A beautiful model is unpredictable.* It produces some interesting implications that are surprising to us and that are not immediately obvious from the assumptions" (p. 66). Many surprises arise from an analysis of the model's predictions. How precisely a model is defined affects its ability to produce surprises. Although it may appear counter-intuitive, precisely defined models are more likely to produce surprising implications than loosely defined models. The specificity in a precisely defined model may lead the inquiry into new

areas because it allows each element of the model to be consciously applied, often paradoxically. Loosely defined models are more dependent on unspoken assumptions to direct their application. These unspoken assumptions are less likely to be consciously examined and applied. Therefore, the model is less likely to lead the inquiry into surprising areas.

The final criterion presented by Lave and March for evaluating models is justice. This criterion contrasts with the first two, which are much more amenable to objective analysis. The concept of justice clearly introduces the impact of values on the inquiry process. Although the introduction of this criterion is therefore controversial it reflects the reality that values inherently play a role in human inquiry. Values should be an acknowledged part of the model development process.

Like truth and beauty, justice is an ideal rather than a state of existence. We do not achieve it--we pursue it. In this pursuit we accept some responsibility for the social myths by which we live. Our models are not neutral. They establish our perception of the world, and they condition our attempts to act. (p 74)

It is important to determine whether a model contributes to a better, not a worse world.

That, in brief is something of the nature of the search for truth, beauty, and justice. It involves a continuous interplay among the real world, the world of esthetics, the world of ethics, and the model world. To make a speculation about human behavior you begin by working backward. You explain an observed fact by imaging what kind of process would, if it were true, produce such a fact. Then you assume your imagined process is correct and infer some additional facts that should be observable. Then you check those predictions in the real world. At the same time, you assess the justice and the beauty of your speculations. At this point you usually have to start over again. (Lave & March, 1975, p. 78)

Generating the Dynamic Model of Systems Change

The model for building a model, as discussed above, clearly requires an interactive process with the "real world." The initial formulation of the dynamic model of systems change was based on an integration of personal, professional experience and a review of the literature. The model was then used to generate predictions of what was observed in real world situations where organizations were undergoing change.

The face validity of the model was assessed in organizational change situations.

Utilizing the information gathered from these situations, the model was further refined. The model was then exposed to a second set of organizational change situations and further refinements made to create the final model.

The generation of the model was divided into two phases: the creation of the initial model phase and the exposure and refinement phase. In addition to the presentation of the final model, each of these phases was described in the Dynamic Model of Systems Change chapter.

Steps to generate initial model

The steps in developing the model were:

- Present theoretical foundation
 - Autopoiesis - how the primary role of system is to define itself
 - Definition of systems - how systems are defined and what evidence there is of the definition

- Balance of forces - how change and stability create definition
- Integrity - how integrity is used historically as well as specifically in this model
- Describe selected observations from experience
 - Change initiating behaviors
 - Stability reinforcing behaviors
 - Definition of organizations
- Generate draft of model
- Evaluate model for simplicity and fertility
- Revise draft of model
- Circulate model to dissertation committee members for review and comment
- Revise draft of model prior to field exposure

Field Exposure

The objectives for the model's field exposure in an actual organizational change situation were: 1) Assess the face validity of the model in an actual organizational change situation. 2) Learn some benefits of using the model in such situations. 3) Clarify some of the limits in using the model. 4) Refine the foundation concepts for the model and polish the wording of the model to reflect what was learned in the field exposure.

The method for applying the model in a field exposure was a series of in-depth interviews with key participants in organizational change situations. Interviews were the preferred approach due to the small number of participants in this phase of the model development process. There was a great need to maintain flexibility to follow unexpected disclosures and suggestions. Flexibility of personal interviews, while the inquiry's major strength, was also a weakness in that the inquiry process was not as standardized as possible through the use of instruments (questionnaires) to be completed by the participants. In this development process the advantages inherent in the flexibility outweighed the disadvantages of loss of standardization of questioning.

The actual steps to expose and refine the model were:

- Based on the tenets of the model, identify information to be collected to test the applicability and usefulness of the model
- Develop interview protocol to guide interviews
- Identify alternative models to be used for comparative purposes
- Select appropriate organizations to apply the model in organizational change settings
- Select individuals to interview to apply model
- Complete interviews
- Evaluate model utilizing information collected in interviews

- Revise model, in light of the collected information, and repeat the steps for the second phase of the field exposure

The specific information collected during the interviews arose from the specific elements of the model. This information was organized to provide criteria for evaluating the model. Generally, the types of information collected included: How well does the model depict the organization's self-definition process? How well does the model describe the forces for change and the forces for stability? How well does the model describe the impact of the interaction of these forces on the definition of the organization? Can the model be used to describe/interpret the organization's change process? Which types of dynamics are most ably dealt with using the model? Which dynamics are most problematic for the model? Which predictions were valid using the model? Which predictions appeared to be in error? What surprising implications arose from applying the model? What practical benefits were evident from using the model? How does the dynamic model of systems change compare to the alternative models identified? An interview protocol was developed to ensure that each of these question areas will be discussed yet allow for exploration of interesting lines of inquiry.

Organizational sites selected for this phase were engaged in an organizational change process for a minimum of 3 months. The intent of this criterion was to allow sufficient time for individuals to have come to accept that the intent of the organization to change is serious, to have formulated their own opinion of the change, and to have begun taking action that either supports the change or supports the continuation of the status quo. Although the 3-month time frame is somewhat arbitrary, it is a minimum based on my professional experience. A site screening tool was developed based on

the dynamic model of systems change. The intent of the screening tool will be to ensure opportunities to disprove the model as well as to demonstrate its usefulness.

Two organizational sites were selected for the first exposure cycle. Two additional sites were selected for the second exposure. At one site stability behavior will have been labeled by the agent of change as resistance while at the second site it was not so labeled. Sites were either small organizations or a subunit of a larger organization. The sites were expected to have between 100 and 500 employees. The intent of this size site is to ensure sufficient organizational complexity while allowing the impact of one person or a small group of individuals to be observable. The change being examined was limited to the site being reviewed. Sites were identified through my professional and personal network of contacts. These contacts were polled for prospective sites. The contacts were then interviewed to facilitate evaluation of prospective sites. Contacts associated with the chosen sites were asked to assist in gaining entry to complete the review.

Individuals within these organization, with a variety of experiences and perspectives, were interviewed. The individual assisting in gaining access to the organization was asked to assist in identifying appropriate individuals to be interviewed. Those interviewed included:

- Agent of change - represented the change process and explained the benefits assumed to arise from completing the change
- Peer of agent of change - reflected on the dynamics of the change process with a special sensitivity to the role of the agent of change
- Agent of stability - represented the efforts to maintain the status quo and explained the assumed benefits to arise from maintaining it

- Peer of agent of stability - reflected on the dynamics of the change process with a special sensitivity to the role of the agent of stability

The interviews were conceived as a critical step in the refinement of the model. They were completed by the author of this dissertation. The interviews were audiotaped and selectively transcribed for later review during the evaluation and redrafting of the model.

Upon completion of the interview process, the collected information was evaluated utilizing the criteria previously established. The model was rated on each point in the criteria list. Alternative portions of the model were generated where possible and limitations of the model noted where alternatives were not yet possible. All steps of the field exposure will be repeated in the second stage of this portion of the model generation process to explore the truthfulness and usefulness of the revised model.

Limitations of the Study

There are inherent limits in both the creation and use of a model. This model distills *some* of the essential elements of real world situations to establish a more easily comprehended understanding of these situations. There are elements which were not included which could lead to a different understanding of the same situation. Where possible, these elements were acknowledged. The model developed in this study does not attempt to describe or explain all of the ways organizations define themselves or all aspects of change situations in organizations.

The model is designed as a diagnostic tool to better understand the organizational dynamics involved in situations of organizational change. It is not a tool for diagnosing the personalities or motivations of particular individuals.

The application stages of the development of the model were not designed to be a comprehensive test of the validity of the model. The application stages were designed to provide a variety of settings to explore the model's usefulness and more obvious shortcomings during the development process. These application opportunities were designed to facilitate the refining of the model. A more comprehensive test of the truthfulness and usefulness of the model is seen as a logical next step.

A final caution is necessary. The model attempts to reframe behavior that has been labeled in generally negative terms. The use of the *resistance* label is based on a model that contrasts dramatically with the one to be presented here. The use of this resistance model and label has been prominent for many years and has a great deal of social acceptance. There has often been a high degree of emotion tied both to the labeling of someone as resistant and to being so labeled. The dynamic model of systems change challenges the dominant paradigm for describing and explaining this behavior in organizations.

CHAPTER V

DYNAMIC MODEL OF SYSTEMS CHANGE

Introduction to the Model

Understanding change has been a popular topic for many years, whether it is social change, organizational change or personal change. The challenge is to better understand the dynamics of change and how to more effectively respond when confronted with an increased impetus to change. The dynamic model of systems change reflects the amazing complexity found in all change situations, including those which appear quite simple when superficially viewed. For many practical reasons, it is not necessary to understand those complexities in "simple" situations, but these circumstances provide opportunities to better grasp the dynamics of more complicated contexts. The model provides a way of framing change situations that leads to new questions and insights. From this foundation, groups and individuals can more consciously make choices about change.

Business organizations are struggling to change, which means to adapt. The pressure on businesses in the United States continues to grow. There is a restructuring of the marketplace, especially due to the increased globalization of production and marketing, that is challenging businesses to adapt or perish. Industries as diverse as computer programming to earth-moving equipment are being challenged by foreign competitors.

In the literature, change has most frequently been equated with large-scale organizational change. Writers such as Lippitt, Watson and Westley (1958) were very

clear that they were dealing with changes large enough and specific enough to manage. They helped pioneer the term planned change and specifically excluded other forms of change from their consideration (p. vi). This was a pattern to be repeated by many other writers (e.g., Bennis, Benne, & Chin, 1985; Mohrman, et al., 1990) to the exclusion of consideration of how smaller-scale, nonplanned change occurs in organizations. One of the results of this focus on large-scale, planned change is that smaller, nonplanned changes become invisible, not only to managers but also the very people who create them. This frequently results in an assumption by workers that change is comprised of only major, disruptive experiences and that they have little or no experience with such change. Most individuals therefore face mandated change with great trepidation.

Many managers, assuming that "managing large-scale organizational change" is similar to managing any other task, attempt to utilize those skills developed over many years of managerial experience. In many situations the change objective is reached and success declared. In some situations changes persist, but in many others old behaviors soon reappear. After several frustrating experiences like this, managers search for new ways of implementing change. In their problem-solving mode, they search for a more effective solution to their problem, not necessarily a better understanding of why their previous actions failed to bring about the desired results. A number of approaches to organizational change, presented in the Literature Review chapter, address this managerial need.

There are also models that have been developed that address the more fundamental dynamics within a system, e.g. Ilya Prigogine's equilibrium model (Nicolis & Prigogine, 1977; Prigogine & Stengers, 1984). This model, developed in a

physics environment, has major applicability in social systems as well. It is a foundation for better understanding why some systems are more open to change while others are quite closed to change. Building on this model also provides insights into how systems can make numerous small changes, yet appear resistant to larger changes. It is also helpful in understanding why some systems suddenly change in radical, unpredictable ways.

Kurt Lewin's field of forces model remains, after more than 45 years since its original presentation (Lewin, 1947; Lewin, 1951), a productive way of exploring how a great variety of forces interact to cause a specific outcome in a particular system. This model is particularly helpful in understanding how a system associates with a precise point in the equilibrium model, as well as how it changes in a specific way.

The critical factor that neither of these writers extensively address is the definition of the system in question. In order to simplify their models for creating a more generalizable theory, there often needs to be an underlying assumption that a common system is being examined. Much can be learned about systems from this perspective. But, in real world applications the differences in systems must be recognized. The definition of social systems is not so absolute that all participants in a context define any or all systems in the same way. In fact, it is more likely that individuals and/or groups are identifying a multitude of systems. To make the situation even more complex, individuals and groups give priority to various systems in differing orders. In these practical applications, to assume that everyone is defining the same systems and ordering them in the same way is to make a potentially serious error. Such errors create opportunities for misunderstandings and conflict within organizations. Therefore, the identity of the individual or group creating the definition

that is used becomes an important issue. The system can be defined by an observer outside of the system, or by the system itself. This focus on the self-definition of systems was a primary concern for Maturana and Varela (1980; Maturana, 1981). The actual self-definitional process can significantly impact how the various forces on and within a system are experienced and where the system operates at any point in time on the equilibrium model. Change can be thought of as an act of self-definition as well as an expression of the self-definition of an organization.

The identification of a system and a subsystem is a rather arbitrary designation. Individuals, work groups, divisions, companies and industries may be considered to be either separate systems or simply subsystems of larger systems. This multilayering of systems adds a significant complexity to the exploration of change. Each layer has its own unique definition as a system, including expectations of those individuals participating in the system. Participants in these systems identify more with one system than with others.

The model that is presented here strives to integrate these various issues into a comprehensive model that more adequately reflects the complexity of real social systems. The model is designed to describe the process by which systems change. It is a model much more of "how" systems change rather than "why" they change. The general principle of this model is for systems, whether organizations or individuals, is to seek to achieve balance between the need to maintain some level of stability and the need to make changes. The model attempts to translate complex interactions into a framework that renders it useful in day-to-day situations in which a general understanding of organizational dynamics, and change dynamics, in particular, are sought. The model is a systems approach to change. While primarily designed to aid

in the understanding of organizational change, the fundamental dynamics described are applicable to any social system. By using this model, change can be examined whether it is thought of as large-scale, planned change, or the minor adjustments that individuals make every day in the way they work.

Creating the Model

This model was created in a multi-step process. A draft of the model was created by drawing on extensive reading in related fields, personal experience as an agent for change, and discussions with peers. After the completion of the draft, interviews with 20 individuals in five organizations were used to introduce the elements of the model, gain reactions, and suggestions for improvement and expansion. The model was revised midway through those interviews and again at the conclusion of the interview process. The model presented in this chapter represents the outcome of the complete process.

Definitions of Major Concepts

- Adjustment Modification of a system's activities and/or beliefs in response to the pressure from forces for change
- Agent for change Individual who acts to direct and/or support a system making a specific change, and whose role is often publicly identified
- Agent for stability Individual who acts to oppose a specific change and maintain the status quo, a role which is rarely publicly identified
- Balance That point where sufficient forces for stability have been mobilized to negate specific forces for change; this point is not necessarily stable
- Bifurcation Point The point where such extreme tension is experienced by a system that it either disintegrates or reorganizes into a new system
- Change An adjustment made by a system as a result of evaluating forces for change and deciding to modify some pattern of activities or beliefs of the system rather than oppose the forces for change
- Change Continuum A continuum ranging from low frequency of change to high frequency of change reflecting the aggregate change in a system
- Equilibrium Area of the tension continuum where a system experiences interactions with its environment without need to change

Evaluation Criteria Standards used to evaluate forces for change and make decisions about changing or opposing forces for change

Far-from-equilibrium ... Area of the tension continuum where a system experiences interactions with its environment with extreme pressure from forces for change

Forces for Change Environmental or internal influences which act to move a system from a specific pattern of activities or beliefs

Forces for Stability Environmental or internal influences which act to maintain an established pattern or activities or beliefs

Health of system System experiences enough tension to provide focus and energy without reducing effectiveness and risking bifurcation; system is responsive to its environment without losing self-definition

Near-equilibrium Area of the tension continuum where a system experiences interactions with its environment with little pressure from forces for change

Social System An expression of the collective participation of two or more people as a system; system elements are individuals and groups; may be considered both the structure that relates their members and a collective representation of those members; as a collective, the social system can evaluate situations and make decisions

Stability Associated with maintaining the status quo in a particular situation

Stable	Condition of a system when it experiences a low amount of tension due to the opposition of forces for change by forces for stability
System	A set of elements that have an identity that is distinguished by its elements, processes, information, and perspectives; elements have relations with each other and boundaries that distinguish a system from its environment
Tension Continuum	A continuum ranging from low tension to high tension reflecting the degree of forces for change experienced by a system on a particular activity or belief; a continuum ranging from low tension to high tension reflecting the aggregate experience of forces for change on a system
Tension	Stress created by forces for change being experienced by a system without the system making a change in its activities or beliefs

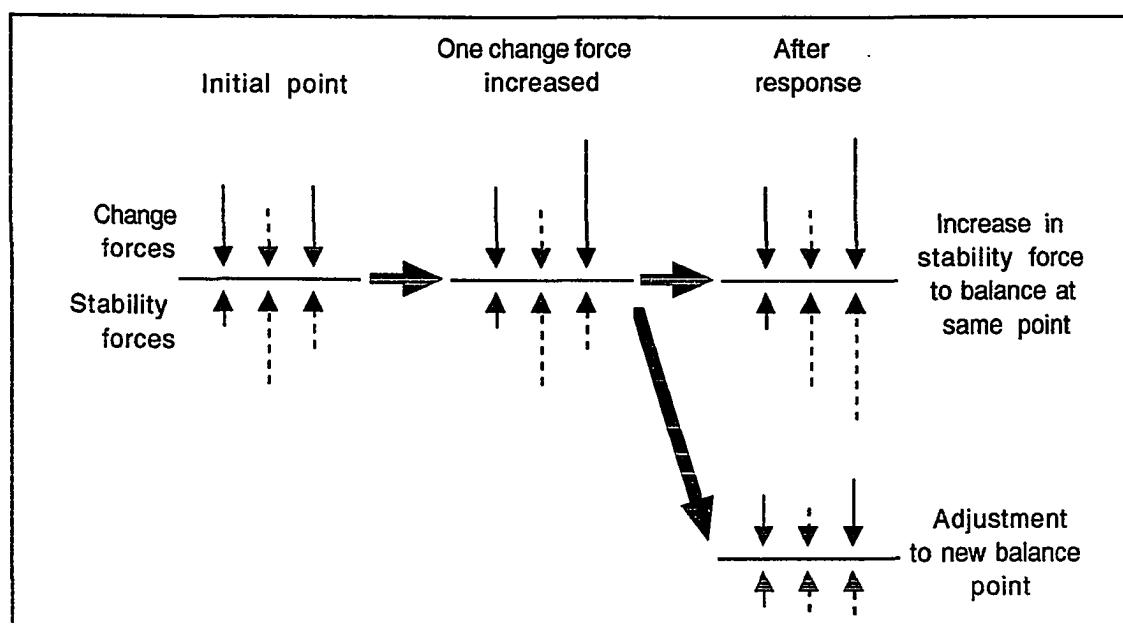
Summary of Model

Forces for Change and Forces for Stability

Systems experience both forces for change and forces for stability. The core of the dynamic model of systems change reflects the interaction among these forces.

Forces for change act to move a system from a specific pattern of activities and beliefs, while forces for stability act to maintain an established pattern. When these opposing forces are in balance, or when forces for stability exceed the forces for change, the status quo is maintained. When forces for change exceed forces for stability, either an adjustment directed by the forces for change will occur, or additional forces for stability will be activated to balance the greater forces for change (see Figure 4).

Figure 4. Responses to increases in forces for change



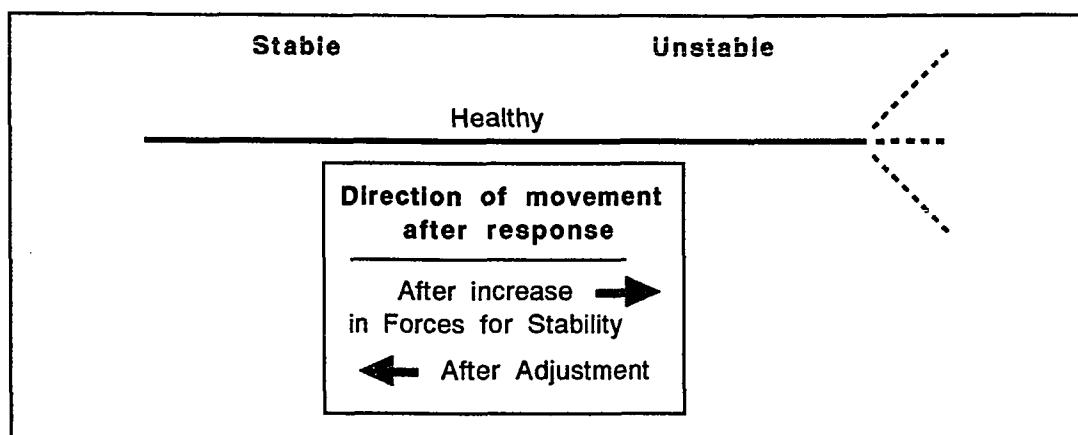
Individual forces for change may motivate movement in any direction from an established pattern. Particular forces for change may negate others due to their stimulating movement in opposite directions. Therefore, forces for stability oppose what might be called net forces for change. Forces for change may originate either within the system or within the system's environment, but they are more likely to originate in the environment because once a system adjusts to meet a particular environmental situation, it tends to remain constant. Forces for stability may also originate either within the system or within the system's environment, but are more likely to originate within the system. Both forces for change and forces for stability are important to a system. Systems which do not experience significant forces for change or oppose all those it does experience are rigid, with their vitality drained. Forces for change provide that vitality. Dominance by forces for change results in systems that have little to hold them together. Forces for stability provide continuity and a foundation upon which changes can be made.

Tension Continuum

The choice by a system to adjust to an increased Force for Change or to oppose it has consequences beyond the immediate choice. Such a system will experience an increase in tension within the system when increased forces for change are opposed by increased forces for stability. Adjustments (changes in response to forces for change) reduce that tension by reducing the impact of the Force for Change and the need to maintain a balancing amount of forces for stability. A pattern of adjustments to all or nearly all forces for change can be disruptive to a system. For many systems, a moderate amount of tension is a worthwhile tradeoff to gain important continuity of

operation. The higher the tension within a system, the less stable the system. This can be taken to an extreme. The stability level of a system, at any point in time, can be located on a continuum ranging from stable to unstable (see Figure 5).

Figure 5. Tension Continuum



Systems at the stable end of the continuum are relatively free from tension and focus on continuing to operate in their familiar patterns. They note fluctuations from the norms and eliminate them. They are most likely to activate forces for stability when confronted with increased forces for change, a step that increases the tension within the system and moves them from the extreme position on the continuum. These systems do not experience much vitality since they are always focused on maintaining the status quo. In the extreme, these systems can be considered to be frozen, not open to any change.

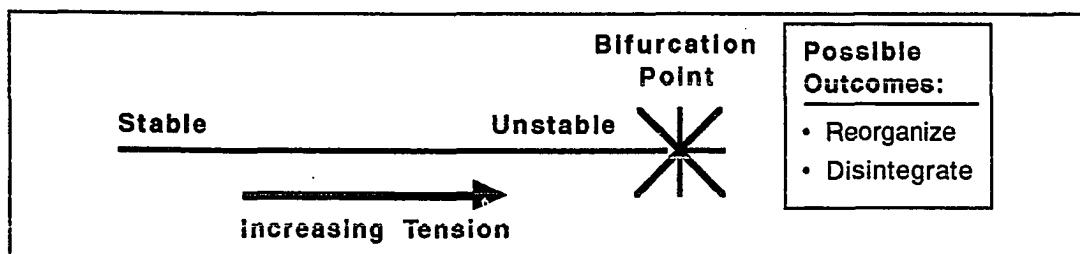
Many organizations exist in the middle range of the continuum. This position may be considered to be healthier than at either extremes of the continuum because the

organizations experience enough tension to provide focus and energy without reducing effectiveness and risking bifurcation. In this mid-range position, organizations experience greater levels of intensity in the interaction between forces for change and forces for stability than systems which are extremely stable. Participants in these systems may be more willing to make adjustments (changes) in their behaviors and/or beliefs and therefore the systems may be considered to be more open to change. If they make adjustments, tension is reduced, because the impact of the forces for change and the need for forces for stability are reduced, allowing them to move back towards the more stable end of the continuum. If they choose to oppose any additional forces for change, they must increase their forces for stability and therefore create more tension in the system. Increased tension makes the system less stable, resulting in movement along the continuum towards instability. Systems in this middle area of the continuum have generally found a productive balance between maintaining stability and adjusting to forces for change.

Systems at the unstable end of the continuum are extremely stressed by the extent of tension within the system. They may become open to change and be more willing to make adjustments. Significant adjustments may reduce the tension and move the system back along the continuum. Systems at the extreme position experience a brittleness. These systems experience so much tension that they risk disintegration when the system reaches what Prigogine and Stengers called the bifurcation point (1984) (see Figure 6).

This bifurcation occurs when a system is unable to activate additional forces for stability and is forced to change in a much less orderly way than it might have earlier. This change process may take on the appearance of water pouring from a breaking dam

Figure 6. Risk of too much tension in system



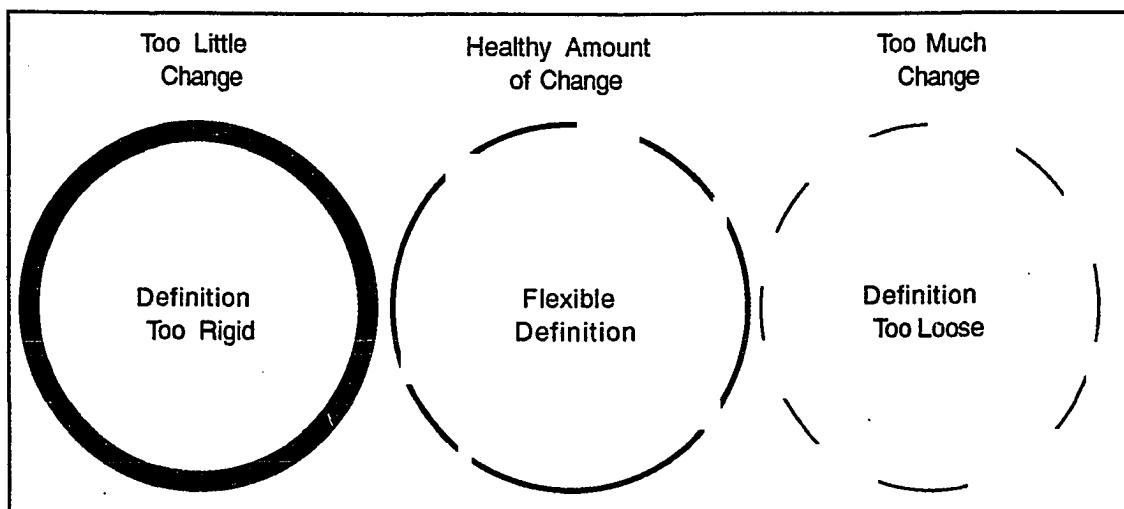
and result in changes that would not have been predicted. The system may disintegrate or reorganize in quite different ways. If it reorganizes, the system will then stabilize with a much lower level of tension between the forces for change and the forces for stability.

Degree of Change Continuum

Change within systems can be observed to be a productive process as a system adapts to increased or new forces for change. This adjustment process allows a system to improve its efficiency and effectiveness in its interactions with its environment. In addition to these benefits, change also contains risks. The faster and more dramatically a system changes, the more difficult it is for the system to maintain its sense of self-definition. The boundaries of the system become more vague. *What is the system?* becomes a critical question that is harder to answer. *What it was, is no longer* and *what it presently is, may soon change*. The system, experiencing extensive change in core elements of its definition, risks disintegration in a manner very different from the breakdown of a brittle system. Rather than a series of dramatic events, an organization

losing its definition as a system simply fades away, as water evaporates in the sun. An example is a group charged with coordination which is made up of representatives of several departments. If the coordination group suffers from extensive turnover it will have much less of a sense of identity. Unless the group is recharged with a sense of purpose (identity) it may function as a group less and less frequently until it could be considered defunct (see Figure 7).

Figure 7. Effects of change on self-definition



On this continuum, a more healthy position is again in the mid-range. In such an area, the organization is able to be responsive to its environment without risking losing its sense of identity. Forces for change are evaluated in order for the organization to decide whether to change or not. Too little change, especially in the face of significant forces for change place the system at risk on the tension continuum but the system is very clear about its identity. Too much change diminishes the sense of identity.

Nine-Box Assessment Tool

The two continuums described above--1) degree of change from too little to too much and 2) extent of tension within system due to opposition by forces for stability to forces for change--may be combined to describe systems, whether organizations or individuals. Systems identified in the middle portion of both continuums are evaluated as healthier than those evaluated to be at either end of the continuum.

Figure 8. Combination of two continuums

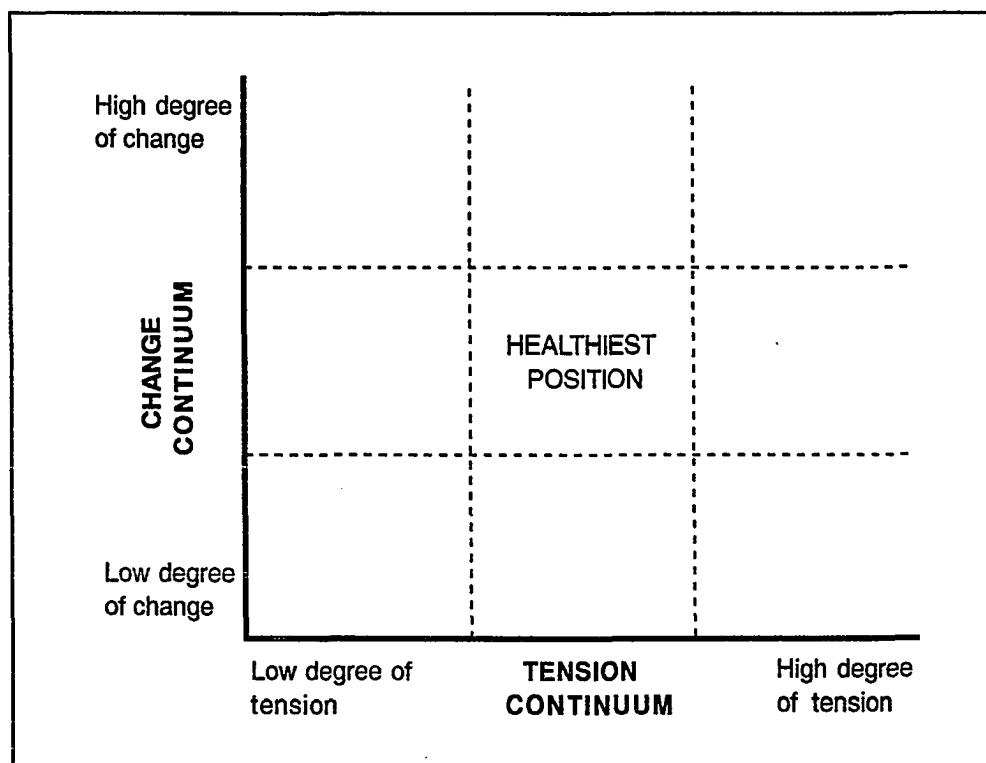


Table 3: Nine-Box Tool

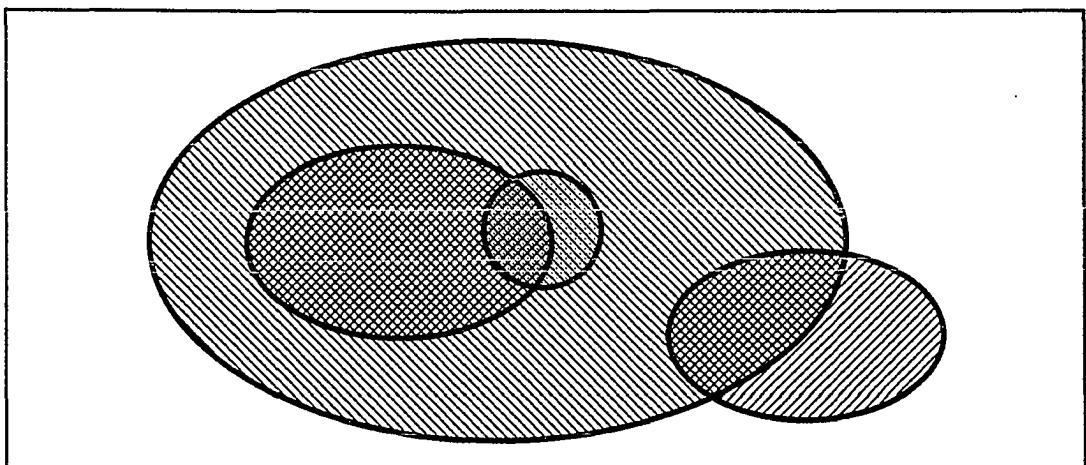
CHANGE	Too much change	High degree of interaction with environment Vague sense of self-definition Lower level of continuity in purpose/activities Lower level of commitment to organization Lower level of creativity Higher level of complacency	High degree of interaction with environment Vague sense of self-definition Lower level of continuity purpose/activities Lower level of commitment to organization Productive level of creativity Moderate level of complacency	High degree of interaction with environment Vague sense of self-definition Lower level of continuity purpose/activities Lower level of commitment to organization Higher level of creativity Lower level of complacency
	Productive	Productive degree of interaction with environment Clear sense of self-definition Productive level of continuity in purpose/activities Productive level of commitment to the organization Lower level of creativity Higher level of complacency	Productive degree of interaction with environment Clear sense of self-definition Productive level of continuity in purpose/activities Productive level of commitment to the organization Productive level of creativity Moderate level of complacency	Productive degree of interaction with environment Clear sense of self-definition Productive level of continuity in purpose/activities Productive level of commitment to the organization Higher level of creativity Lower level of complacency
	Too little change	Lower degree of interaction with environment Rigid sense of self-identity Higher level of continuity in purpose/activities Higher level of commitment to the organization Lower level of creativity Higher level of complacency	Lower degree of interaction with environment Rigid sense of self-identity Higher level of continuity in purpose/activities Higher level of commitment to the organization Productive level of creativity Moderate level of complacency	Lower degree of interaction with environment Rigid sense of self-identity Higher level of continuity in purpose/activities Higher level of commitment to the organization Higher level of creativity Lower level of complacency
		low tension	Moderate	high tension
		TENSION		

Systems are identified with specific positions on the two continuums. As their positions on the continuums change, their corresponding position on Figure 8 may also change. A system that moves through several of the boxes establishes a path of movement. Further study may reveal predictable patterns to these paths. Descriptions of some characteristics of systems located in the various boxes are identified in Table 3. These descriptions follow from the nature of the two continuums. From the change continuum descriptors include: degree of interaction with environment, sense of self-definition, continuity of purpose/activities, and level of commitment experienced. From the tension continuum descriptors include: level of creativity and level of complacency. Further study may expand these descriptions.

Multiple Systems

An important question, *What constitutes the system?* may become a point of contention among the many individuals and groups in a particular context. *Who defines the system and how* it is defined become critical issues. The phenomenon of multilayering of systems adds an important complexity to this process (see Figure 9). Systems may also be subsystems of other systems as well as overlap with additional systems. Each system will have positions on its own set of continuums. Since these systems are social systems, they will represent the collective and aggregate actions of their members. Each system will evaluate forces for change in unique ways. Each system will decide whether to activate forces for change utilizing its own criteria. Individuals who function as participants in several systems at the same time, including the multilayered systems, assign rank priority to each of these systems, a process that adds yet another important complication to the change process.

Figure 9. Multiple systems



Each system, however it is defined, experiences a dynamic interaction between forces for change and forces for stability. Each system, depending on its definition and priority, interprets these forces and makes decisions, consciously or subconsciously, about whether to adjust to or to oppose additional forces for change with increased forces for stability. In examining complex situations, it is therefore critical that an observer, either internal or external, understand how those who make up the various systems integrate these issues in their definition of their own systems.

Equilibrium to Far-from-equilibrium Model

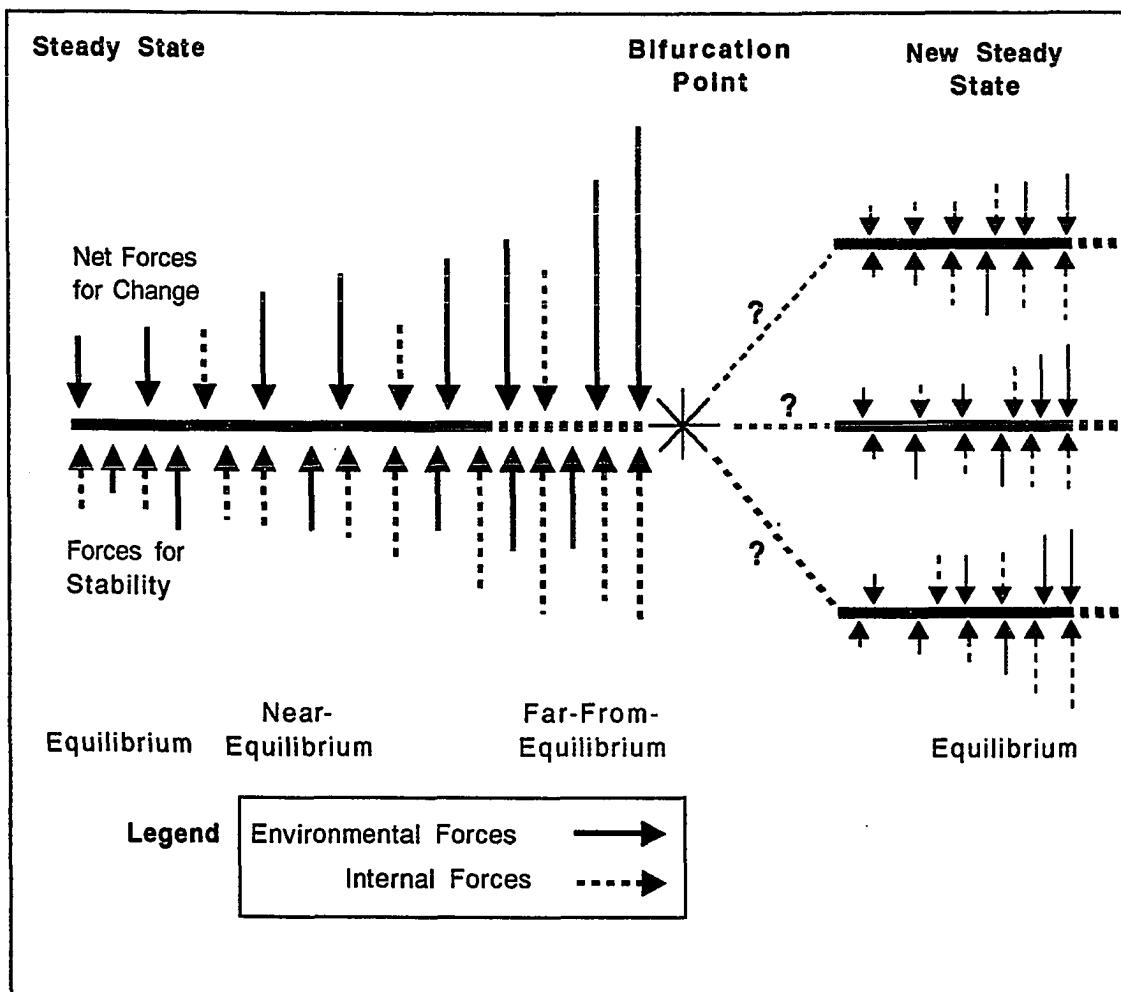
The "dynamic model of systems change" is founded on the equilibrium/far-from-equilibrium/bifurcation model described by Prigogine (Prigogine & Stengers, 1984; Nicolis & Prigogine, 1977). This model assumes that systems strive to

maintain a steady state of existence in spite of experiencing constant fluctuations. This steady state is achieved as a system maintains equilibrium with its environment (see Figure 10).

Equilibrium is a system--which is constituted of elements, processes, information, and perspectives--that creates effective and efficient interactions with its environment. The system operates with little or no tension or stress because of conflicting demands on it. The system is able to maintain its current definition in the face of minor fluctuations, both internally and environmentally. The system uses the cybernetic concept of negative reinforcement to control these fluctuations and return to the norm. In an extreme, all fluctuations would be immediately identified and controlled. No change would take place within the system, not even the small day-to-day work adjustments. In reality, no system achieves and maintains this extreme, idealized state.

Systems operate in a less-than-perfect equilibrium, but the practical reality is that a system can still be considered to be in equilibrium. Figure 10 depicts the equilibrium model. At the equilibrium end of the continuum, the system operates nearly without stress, as it effectively and efficiently interacts with its environment. Nearly inconsequential forces for change are met by nearly equal forces for stability. Most, but not all, fluctuations are controlled and new patterns evolve over time. The process of the evolution of these patterns involves acceptance by the system of these fluctuations-- new behaviors. These new behaviors then become part of the perspective of the system as it evaluates other fluctuations. The incorporation of each of these changes is reflected in the establishment of a "new" equilibrium. In this practical way, equilibrium can be seen to be a dynamic

Figure 10. Expanded equilibrium model



concept rather than a static one. Over time, minor changes can accumulate and represent significant changes achieved beyond the overt control of the system. This is most noticeable in organizations when they are examined at a point in time and then again one year later. Many changes will then be observable. These numerous cumulative changes were not the result of a planned effort.

A system that does not encounter significant forces for change will experience

equilibrium. If this practical equilibrium functions in a continuing effective and efficient manner, a system will remain in this stable state over time. Major changes are highly unlikely in this state. In order for larger changes to take place, additional forces for change must be present. Their presence will contribute to a system either changing or moving along the continuum to a less stable state. Increased forces, whether from the environment or internal sources, either result in adjustments to relieve the tension or movement by a system to a less stable point on the equilibrium continuum. The next location along the continuum is called *near-equilibrium*. Most of the conditions present at equilibrium remain in force. The controls of negative reinforcement are slightly less effective under these conditions. As tension continues to rise, the system moves further. The further a system is from equilibrium, the higher the probability that there will be changes, and the larger the changes might be. Adjustments may be made at any time that reverse this trend and move the system towards another new equilibrium (as in Figure 4).

The impetus to adjust usually arises from a system's environment. This is becoming even more true as changes in the wider environment (nationally/globally) are happening at an ever increasing pace. These changes become new and/or enlarged forces for change for many systems. Unless a system is insulated from these changes by an intervening system, it is likely that these frequent wider environmental changes will translate into sufficient forces to move the system further from equilibrium or contribute to a change. Generally, a social system, as a collective expression of people, has three choices in how it responds to these evolving conditions. (1) It can increase its forces for stability and attempt to maintain itself without change in the face of increased tension. This works well when a particular environmental change is either not

significant or is a temporary aberration. This approach can be detrimental when a Force for Change represents something that is significant and likely to persist. An example is the referencing to and reinforcement of precedents to this type of situation. This is often reflected as "this is the way we do it here." (2) A system can continually search for adjustments that will relieve the tension, even temporarily. This approach works well with significant forces representing more isolated phenomena. As a regular method of adjustment it can be problematical when the forces for change are simply one expression of a larger pattern, perhaps a pattern of rapidly changing environmental conditions. An example is a problem-solving session to generate alternatives. Often what is sought is a "quick fix" solution that reduces the pressure from a particular problem sufficiently to allow movement to the next one. (3) A system can also adjust to a pattern of forces rather than to particular forces. Adjustment is reflected in adopting an acceptance of rapid environmental change into the perspective of the system. One of the system's norms becomes a requirement to adjust quickly to the constant presentation of new change forces from its environment. By following this norm, the system is able to effectively and efficiently interact with its dynamic environment and retains a sense of equilibrium under conditions that may appear chaotic to an outside observer. An example of this choice is when a company, faced with customers seeking small numbers of custom-made products, changes from a long production run assembly process to the creation of an assembly process that can create those desired customized products in short production runs.

Even if adjustments are made, pressure from forces for change may continue to increase. As a system moves further along the continuum, it will accept a wider variety of fluctuations. The system becomes much less stable-- less rooted in past patterns.

The system may eventually reach a condition Prigogine called *far-from-equilibrium*. In this state the system's negative reinforcement process is much less effective.

Fluctuations may actually be positively reinforced, reinforcing/amplifying their variation from the norm. Major changes can take place under these conditions as a result of very little additional input. Changes that result in more effective and efficient interactions with the environment help reduce pressures on the system, allowing it to move back along the continuum towards a new equilibrium. An example of this is a car pulling a high trailer. When the two vehicles are at rest, they are stable. Even a high cross-wind does not affect their relationship and the trailer stays directly behind the car. As the two vehicles enter a freeway, however, conditions change dramatically. Road and wind conditions, which are environmental forces for change, increase their impact on the vehicles. The car, the hitch and the forward motion act as forces for stability to keep the trailer in alignment. The system is under much greater tension when moving at 55 miles per hour. A pothole or a strong cross-wind are more likely to cause major fluctuations in the position of the trailer at this speed. Some fluctuations are even amplified to create very dangerous situations.

Human systems are not totally restricted to reacting to the forces for change originating in their environments. These systems have the capability of modifying their environments if given the time, intention and resources. In the analogy above, the potholes can be filled and barriers erected to moderate the cross-winds. Modifying environments, including affecting forces for change, generally are not immediate since they require time to implement. In the meantime, the system must continue to respond to the environment as it is currently experienced.

In spite of changes made at far-from-equilibrium or due to failure to make such

changes, a system might be pressured into a "bifurcation point." At this bifurcation point the more deterministic processes heretofore in operation no longer dominate. Positive reinforcement of one of the fluctuations becomes the dominant factor. The system either experiences a reorganization around this fluctuation, or disintegrates as a system. Through this reorganization, the system experiences a major shift in its definition and achieves a radically different steady state. Once in this new steady state, the dynamic process of pressure and fluctuation begins again, this time using the new state of equilibrium as the starting point.

An example of this process, both in maintaining a steady state for years as well as expressing a bifurcation, is the experience of AT&T. For years, this major company functioned in a steady state that included a monopoly on long-distance telephone service and on local telephone service in most metropolitan areas. For many years the company maintained this steady state, accepting only minor fluctuations. An equilibrium point evolved very slowly as minor adjustments reduced pressures to change. Environmental conditions began to change with the advent of new technology that made it easier for competitors to enter the lucrative long-distance market. Negative reinforcement continued at work in AT&T, and the system did not adjust to many of these new pressures. The system became less stable as forces--from the outside to change and from the inside to remain the same--rose dramatically. Finally, the threat of a court imposing its own plan forced the system into bifurcation. AT&T offered its own reorganization plan to the court. The plan included divestiture of all local telephone operating companies and a focus on long-distance and a number of emerging technologies. AT&T emerged from the court with a new definition of itself and a new steady state.

Field of Forces

The pressures that AT&T experienced, both from its environment and internally, can be most easily described as forces. Kurt Lewin (1947, 1948, 1951) used the concepts of driving and restraining forces to differentiate how some forces support changes from a current state, while others oppose those changes.

Driving forces--corresponding, for instance, to ambition, goals, needs or fears--are "forces toward" something or "forces away from" something. They tend to bring about locomotion or changes. A "restraining force" is not in itself equivalent to a tendency to change; it merely opposes driving forces. (1951, p. 218)

Forces for Change and Forces for Stability

Lewin's concept of forces is useful in understanding how systems experience Prigogine's equilibrium continuum. This section will expand the scope of the discussion presented earlier. Specific forces interact in what Lewin called a "field of forces" (1951). Forces supporting the stability of a system, or maintaining the status quo, are Lewin's restraining forces. These forces for stability are present in two forms: latent and active. Since these forces oppose change, they are active to the degree necessary to negate the driving forces, the forces for change. As the forces for change increase in intensity, more of the potential forces for stability become active. A challenging question is, "what triggers and supports these forces in becoming active?" forces for stability may be general forces, opposing any and all changes, or may oppose only specific changes. Therefore, when faced with a force for a particular change, the array of forces for stability may include both general and specific forces.

The term *forces for change* is a collective term, rather than a description of a particular force. Different forces may be driving towards different goals, including polar opposites. What these forces have in common is that they stimulate a system to move from the current state. Lewin associated them with bringing about "locomotion" (1951, p. 218). Since the forces for change may be seeking goals in opposite directions, they may partially or wholly cancel each other's impact on the system. Lewin referred to this "combination of a number of forces acting at the same point at a given time" as the *resultant force* (1951, p. 256). Lewin presented the circular statement that (1) whenever there is a resultant force, other than zero, there will be locomotion or change in structure in the direction of that resultant force. (2) Whenever there is locomotion or a change in structure, resultant forces exist in that direction (1951, p. 256). I have translated this concept to read: *net force for change*. It may be practically impossible to isolate particular forces for change except in isolated circumstances. In most situations only the *net force for change* may be observed, although it is important conceptually to understand that what is observed is the result of a net effect. In some situations one of the effects of the smaller of two forces for change--the one that is subtracted from the larger force to create the net force--is that it aligns, at least temporarily, with the forces for stability by negating some of the effects of the opposing Force for Change. An example of this dynamic would be the introduction of a significant, low priced producer into the market at the same time there are increases in the cost of producing the product. A company facing these two very differing forces for change would experience one negating the other. How each of them would be evaluated would determine the direction of the net Force for Change.

As stated earlier, forces can originate either in the environment or within the

system. These forces can be forces for change or forces for stability. Forces originating within a system will predominantly be forces for stability, such as formal and informal descriptions of procedures and relationships. It follows from the nature of systems, especially those at or near equilibrium striving to maintain those states, that such system-supporting forces will be most common. Systems reinforce those forces which help it maintain a desired stability. Internally-generated forces for change are most likely to be generated in response to an actual or anticipated alteration in the environmental forces for change.

As already stated, forces from the environment will more frequently be experienced as forces for change. While this may be less true for a system at equilibrium, since all of the forces are less potent there, it becomes more prevalent as systems move away from equilibrium. Environmental forces for stability are nearly always active and have little or no latent potential. Because most stability forces in the environment--such as consistent availability of resources--are general conditions, rather than specific to one system, they are not likely to increase in their opposition to a change within a particular system. In most situations, these stability forces remain constant, while forces for change increase in number and/or impact.

Since it is the forces for change that contribute to the tension which creates the instability inherent in other-than-equilibrium conditions, it is logical that the further from equilibrium the system, the greater the proportion of environmental forces experienced as forces for change. Forces for change will develop within the system as external forces for change are anticipated or as they cause a reaction within the system (e.g., as the price for a raw material continues to rise, which is a Force for Change, a group within an organization advocates using alternative materials. Advocating is an

internal Force for Change). These internal forces for change will also contribute to the tension within the system. Whereas external forces for stability have little latent potential, internal forces for stability often have a latent capability which is activated as forces for change increase. An example of this phenomenon is a position by manufacturing that no alternative resources be considered. They activate additional forces for stability when they produce additional evidence of the importance of using the current resource rather than changing to a new one, a system adjustment. If internal forces for stability do increase to match an increase in forces for change, the balance point will remain the same, and the current behavior will continue. However, tension in the system will have increased and the system will be further from equilibrium. The ratios of forces for change and forces for stability both environmentally and internally will have changed.

Lewin discovered that systems apparently possess an inertia, aside from the usual forces for stability, that must be overcome before change takes place. He referred to this inertia as "social habit" (1951, p. 225). This inertia was reflected in his consistent observation that it always takes more than a minimum change in the balance of forces--forces for change being slightly higher--before change actually takes place. This minimum threshold of differences in forces becomes an additional factor in supporting the maintenance of the status quo.

As forces for change become stronger, a system experiences increased tension. When two forces for change, both of equal strength, oppose each other, they neutralize each other. The effect on direction of locomotion is the same whether the forces are individually strong or weak. While the locomotion effect is zero, the system does experience more tension when the forces are stronger. Lewin (1951, p. 199) noted the

importance of distinguishing between lack of change and existence of resistance. The simple lack of change may indicate there are few forces for change at work. Lewin's concept of resistance parallels the activation of forces for stability. The observable outcome may look the same in each case. A system may be at equilibrium, with the lack of change simply a reflection of that status. The system may be at far-from-equilibrium, with forces for stability fully invoked to prevent a change. The more the system experiences conflict, the greater the tension. The greater the tension, the more instability is experienced in the system. This greater instability in the system is defined as movement along the continuum away from equilibrium.

Identifying Forces for Change and Forces for Stability

Environmental forces for change and forces for stability are more likely to be identified by systems than internal ones, especially in business organizations. These organizations have created a wide variety of techniques and methods for collecting this information (e.g., marketing research, buyers, and government liaisons). In this context, these forces might be market preferences (product/service preferences, delivery methods/locations, effective promotional approaches, price sensitivity), resource availability (raw materials, people, financial), and pertinent regulations (laws, work rules, contracts). During periods when each of these forces is reported as experiencing few significant changes, a system is likely to perceive the area as a Force for Stability. As significant changes are reported in one or more of these areas, a system begins to perceive them as forces for change. In this way, an introduction of an innovation into a company's long-time, primary market can cause a shift in how the

company experiences that market. Rather than supporting the status quo operation, the market now supports the company in making changes. In addition to these environmental forces, there are also other environmental forces arising from cultural expectations and the physical environment. An example of this is the increased concern for the environment which may affect the products produced, production methods, and raw materials available, and even how a product is packaged. Organizations are less prepared to collect this type of information. These areas are taken for granted, and assumed to be stable.

Most systems do not charge a subsystem with monitoring their environments. For these systems the impact of environmental forces is much less conscious and systematically addressed. These systems are much more likely to be caught by surprise when an environmental force becomes experienced as a Force for Change. This is just as true when a system is actually a subsystem of a business organization.

Internal forces for change and for stability are even less noticeable to most systems than forces from the environment. These forces are so much a part of the system that they become invisible to it. These internal forces may include collective values, behavioral precedents, system cultural norms and expectations, as well as individual and group capabilities. In systems such as business organizations, many of these forces are institutionalized in one or more ways. In this form the forces are nearly always forces for stability. The organization may have articulated its collective values through formal statements and the creation of corporate myths. There are codes of conduct that may be written but are more likely passed through the formal and informal indoctrination of all new employees on how to operate in the organization. These behaviors become part of the cultural norms and expectations that are reinforced in

many subtle ways throughout the organization. Capabilities of individuals and groups are most likely to function as forces for stability. If the capability of specific individuals and groups is limited to one particular method of completing activities, then this limitation functions as a Force for Stability. If their capability exceeds the current approach, it may become a Force for Change if those individuals seek to utilize their greater capability.

Forces for stability are most often noted when they are actively being expressed in opposition to forces for change. These forces exist at all times. It is their conscious expression that may be considered active or latent. An example is an element of a system's culture, such as what behavior is acceptable, which may be invisible to those within the system when it is not experiencing pressure from forces for change. It is a Force for Stability that is not consciously being expressed. When a Force for Change is encountered and the system decides to oppose the change, elements of the culture may be brought to consciousness to support the decision and bolster the activities initiated to oppose the change. Some forces for stability, such as culture, may be identified before they are actively expressed but are often so ingrained that modification is difficult. Other forces are so subtle until actively expressed that they cannot be identified before the introduction of a Force for Change.

Some individuals and groups may also respond more than others in the system to environmental forces for change. They may form an echo of that force as they continue to call attention to the environmental force and advocate making adjustments in the system to better align with the direction of the force.

Islands of Stability

Systems, whether individuals or organizations, seek to achieve balance between the need to maintain some level of stability and the need to make changes. All aspects of a system are not evaluated equally. The system may not have as much invested in maintaining certain aspects as it has in others. When forces for change affect areas where this high personal investment exists, there is less likelihood that forces for stability will actively oppose those changes. Adjustments may be made easily in these areas. Other aspects of the system may be viewed as critical to either the definition of the system or in supporting the stability of the system. The system may tenaciously invoke forces for stability to protect these areas of the system. They may be referred to as *islands of stability*.

Individuals may have certain routines or tasks that form their islands of stability. Organizations may have whole units which provide this function. Changes proposed in these areas will be opposed even when the nature of the opposition is not evident to or anticipated by those observing from outside the system. The maintenance of these islands of stability provide important support for systems in experiencing necessary stability that counters the movement towards instability and possible bifurcation.

Each system develops its own identification of islands of stability. For some the islands are small, isolated aspects of the system. For other systems in which there is a high need for stability, they may consider a very large number of aspects as their island of stability. For these systems, their islands are more like continents. Individuals experience how organizational systems designate islands of stability within

the organizations. Those who have needs for larger islands of stability are drawn to those portions of the organization which function in that stability role for the organization. Those who have lesser needs in this area are drawn to those areas of the organization in which change is much more readily accepted.

Particular aspects of a system which serve as islands of stability are not always necessarily needed in that role. Systems can choose, consciously or unconsciously, to adopt a new aspect as an island of stability and release another aspect from that role. This may be a result of anticipation of a particular change that must be made or it may be one of the ways a system copes with a change it has already made.

Self-Definition of Systems

A system is described as

a *set of elements* that has an identity. It is distinguished from the rest of the world by *boundaries* It identifies the *relations* among sets of elements (in human groups, e.g., distance, affection, power). It frames the *rules that govern these relations* over time or form. (McWhinney, 1990, p. 6-7)

In social systems--individuals, groups, organizations--a system may be defined by either an observer who is outside the system or by those within the system itself. Self-definition happens for each social system, whether consciously or not. That self-definitional process is a critical, on-going activity of the system. It is critical because actions of social systems are governed by their own definition. Maturana and Varela (1980) believed that this self-definitional role is the most important task for any system. Self-definition of a system may be influenced, to varying degrees by definitions offered by those outside a system. The very extent to which outside definitions are accepted by

a system as part of its self-definition becomes part of the self-definition. This self-definition reflects what a system believes about itself and its environment and how it perceives the interaction between them.

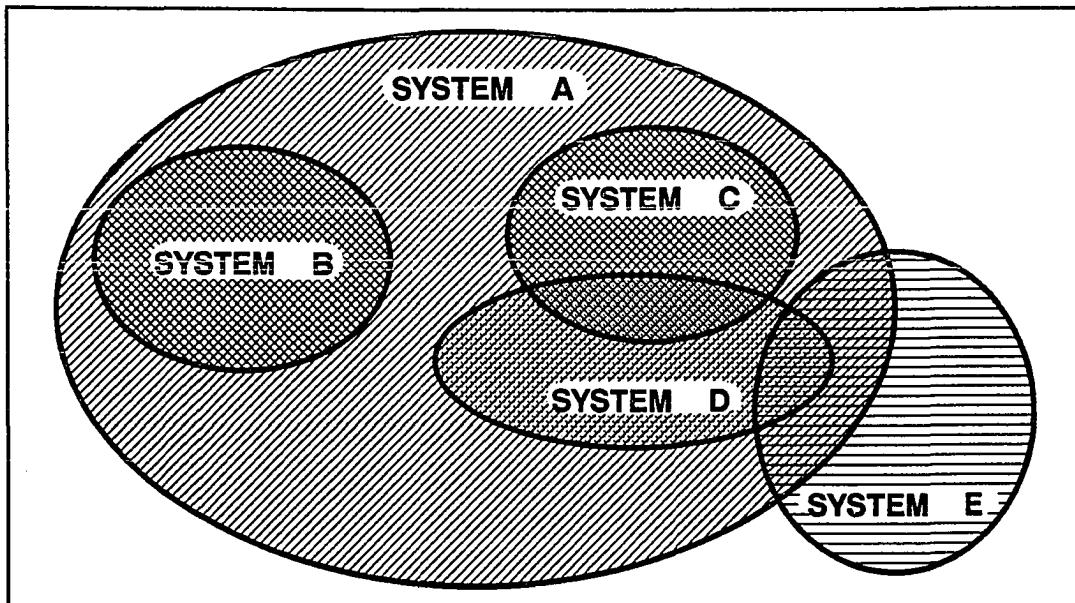
This definitional process includes more straightforward components such as demographics: Who is included? What does the system produce? What resources are used? Where is the system located? A definition of a system becomes more complex through the inclusion of the collective values of its members. An additional component is how open a system is to change. This latter component contains three aspects: (1) current balance point between forces for change and forces for stability; (2) perception of the system's current position on the *tension continuum*; and (3) perception of the system's current position on the *degree of change continuum*. The combination and interaction among all of these components creates the definition. As any or all of these components change, so too does a system's definition. In this way, system changes can be viewed as both vehicles for creating new definitions as well as expressions of those evolving definitions.

Overlapping Systems

Many systems function as elements (subsystems) in larger systems. A criterion for evaluating an individual subsystem as a system in its own right is that the system considers itself a separate system, how it defines itself.

Systems do not exist in isolation; each exists in an environment. Many aspects of environments may also be defined as systems. Many systems have overlapping members, a phenomenon that has many forms (see Figure 11):

Figure 11. Overlapping systems



- One system may include another system (System B is contained by System A; e.g., a company contains a work group).
- Systems can overlap with other systems (System C and System D share some common elements; e.g., two work groups include a common function, (e.g., computer services) which serves both; or a committee, representing both groups, exists to coordinate both groups' activities).
- Systems can also include elements from several levels (System E contains some elements from System A, including elements from System D, which are also part of System A, and some elements from System A's environment; e.g., a professional

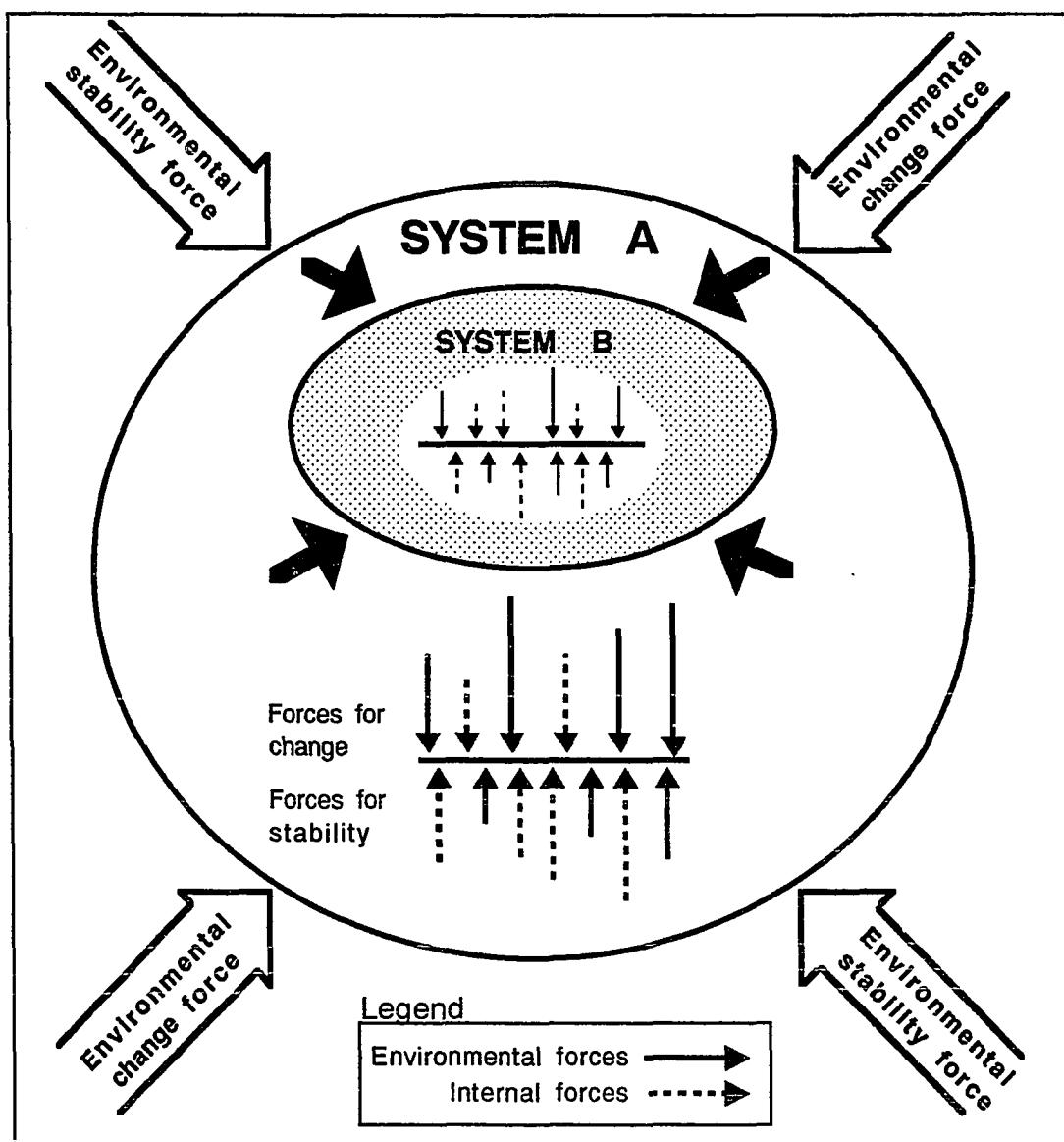
group includes some members from one work group, others from elsewhere in the company and many members from other companies).

Each system replicates a dynamic balance between forces for change and forces for stability. When one system is considered a subsystem of another, the relationship of these dynamic balances becomes important. (see Figure 12) The larger system functions as the environment for the smaller system. Forces from the larger system directed toward the smaller system are regarded as environmental to that subsystem. While the pattern of forces for change and forces for stability may resemble those experienced by the larger system, the smaller system interprets those forces and its own internal forces utilizing its own self-definition.

These issues of viability and multiple layering of systems become more apparent due to the rank-ordering phenomenon. Individuals and groups in a system rank order the systems in which they include themselves. The top priority systems receive the most attention from members. Members of a system who consider it to be their priority system concern themselves with where their system is experienced on the *tension continuum*. They are mobilized based on their perception of that position. They consciously and unconsciously evaluate forces for change and forces for stability from the perspective of how they affect that system. Continued stability, including even existence of this system, is considered paramount. Benefits and threats to that system are given much more weight than benefits and threats to lower-priority systems. Under pressure, other systems will be sacrificed, if necessary, to maintain the priority system. A work group in a company may be an example of this phenomenon. If this work group is considered to be the priority system by its members, then maintaining

the work group is most important. Members of this work group may support decisions and activities which are detrimental to the larger system, the company, if those decisions and activities appear to them to support the work group.

Figure 12. Replication of dynamics



The multi-layering of systems and the incongruity of various perspectives within systems create many opportunities for conflict to develop within and between systems. These opportunities for conflict often begin with disagreement over demographic definitions of systems. Who is included and excluded from the various systems in question? The companion conflict to this issue is the priority ordering of systems. Differences in priority provide a common, but rarely identified, opportunity for conflict. Often, the evaluation of and response to forces for change provide the vehicles for the above conflicts to be expressed. Since individuals and groups in each system evaluate these forces differently, especially in light of their anticipated impact on their highest priority system, forces may be evaluated as highly important to one system and nearly dismissed by the other. Responses will be geared to protecting the system with the highest priority, which may be detrimental to the other system. The latter action may then be considered a threat to the stability of the other system, which will often result in further action. Such cycles of conflict can be highly injurious to systems when participants are unaware of these dynamics.

A system's evolving balance point between forces for change and forces for stability, collectively representing the balance points among many forces for change and forces for stability, also provides an important element in the definition of a system. The expression of this balance point is the many behaviors and values expressed by a system. By considering these many balance points a system may be able to define a coherent whole, resulting in a congruence among many behaviors and values. Such a system has a tightly conceived self-definition. Other systems are much less able to define a coherent whole, and the behaviors and values may often be incongruous. These systems have much more loosely conceived self-definitions. This congruence or

incongruence becomes part of the definition of the system.

Attention within systems is focused on those aspects experiencing pressure from forces for change. Systems at the equilibrium end of the continuum possess many fewer aspects experiencing pressure from forces for change than systems approaching far-from-equilibrium. Systems may experience surprise, even shock, when one of these stable areas becomes the focus of forces for change. The more aspects of a system, both quantitatively and qualitatively, that are targeted by forces for change, the less stable the system. These stable aspects are important to the well-being of the system. They are *islands of stability* which help a system continue to experience some level of stability and therefore define a less extreme location on the equilibrium continuum. Like pilings driven into sand to provide a firm foundation, they provide a buttress for a system to withstand serious pressures from forces for change, avoiding bifurcation. Alvin Toffler referred to this concept as *personal stability zones* (1970, p. 377).

Individuals and groups in a system may differ in their definition of the system, including the position on the continuum and the priority position of the various systems. These differences have two effects: potential for conflict and the appearance of *collective definition*. Conflict can be overt or covert. The functioning collective definition may differ considerably from the espoused definition. If the system is not a formally identifiable system (e.g., company, work group, membership organization) then the collective definition will be the only definition. Since most systems, such as social groups, are not formally recognized, the unspoken, collective definition is most commonly the sole definition.

Subsystem behavior may be beyond the consciousness of the larger system.

Each subsystem experiences forces for change and forces for stability in its own unique way. It will respond by either adjusting to or opposing forces for change. These small adjustments, changes, will most likely not be noticed by the larger system. These changes may be as small as a minor change in an individual's work routine or work group's interaction. Over time these changes accumulate. Cumulative changes by subsystems can affect changes in the larger system because they occur so slowly that they are less likely to trigger the larger system's forces for stability until they are already widely diffused and well-accepted in the system. These new behaviors and beliefs are accepted as part of the current reality by the larger system. The larger system then incorporates this reality into the framework from which it evaluates future system-wide changes.

Agents for Change and Agents for Stability

Agents for change act to interpret and communicate the importance of forces for change to a system. They identify specific action needed to make what is hoped to be a productive adjustment to a Force for Change. Agents for change are also alert to expressions of forces for stability. To support the implementation of change, they will attempt to either increase forces for change or decrease forces for stability. In the context of larger-scale organizational change, an agent for change is likely to be clearly identified and officially and publicly charged with planning and coordinating the change.

Agents for stability act to maintain the stability, or status quo, of the system.

These agents, mirroring the intent of the forces for stability, may work to maintain the system completely in its current stable state or simply oppose a particular change. Agents for stability, although capable of doing so, are less likely to engage in the planning and coordination of activities designed to oppose acceptance of a change. In clearly identified organizational change situations, those who are highly visible agents for stability may be labeled as *resisters*. This label is often applied by agents for change who experience these individuals' opposition to their objectives. Generally, agents for change are much more active and visible than agents for stability. This difference in the activity of agents for change and agents for stability reflects the nature of the process. To take no action preserves the status quo, while taking action furthers change.

Every individual acts as both an agent for change and an agent for stability. This dual role is quite evident in individual's personal lives as these small systems deal with adjustments, for example, in daily work patterns. These changes, especially if they prove to be effective, are likely to be disseminated, like other innovations, in a person-to-person process. In larger organizations these roles often become more specialized. Labels are attached to certain people who are prominent in one of these roles more publicly.

Agents for either change or stability may not recognize their own roles. This is especially true since much change takes place out of consciousness. Individuals may actually act out both roles, even in responding to the same situation. In most situations, individuals act out these roles without formal assignment. They simply respond as a situation unfolds. Just as individuals felt they must act both in the role of agent of change and agent of stability in their own lives, organizations require these roles too. Those fulfilling these roles are representing either forces for change or forces for

stability that the organization must acknowledge. Both roles contribute to the health of the organization.

How Is This Model Useful?

- Increases understanding of basic dynamics of the change process, including factors which initiate change and those that contribute to maintaining the status quo, experienced as opposition to changes.
- Increases depth of understanding of the complexities of the change process, including the minute changes that take place in everyone's daily lives.
- Increases understanding of many experiences of miscommunication among individuals involved in change processes, e.g., instances in which there are differences in opinions about which systems receive the highest priority; instances in which different evaluation criteria are used to evaluate forces for change.
- Increases understanding about conflicts which arise and are maintained in change situations, as well as understanding why those with opposing views can feel so righteous in their positions.
- Provides additional information to achieve more informed evaluation and action. Better understanding of a situation can lead to action on very different levels than would have previously been attempted. Change agents have frequently taken

personally the opposition to their proposed changes. The interaction between the forces for change and those for stability are more likely to be impersonal. Rather than an agent of change attempting to simply modify the behavior of a target of a change, the agent can also look at the more fundamental, underlying identification of the primary system.

- Enables organizations to reduce the pain experienced as they change by better understanding change dynamics, and more effectively implementing interventions.

Evaluation of the Model

- *What other models represent the same phenomena? How does this model compare to them? What are its advantages? What are its disadvantages?*

No other model attempts to integrate many elements of these phenomena into one description. Other models isolate far fewer elements, e.g., stages of change models of Bridges (1980), Jaffe and Scott (1990), Hall, Loucks, and Newlove (1975) and McWhinney (1992); organizational change models of Nadler and Tushman (1990), Van de Ven and Angle (1989), and Lovelady (1989); and the descriptions of systems of Prigogine and Stengers (1984); Maturana and Varela (1980) and Senge (1990).

The advantage of a more inclusive model is the acknowledgement of the impact of additional factors that other models must assume to be constant. The actual complexity of real situations is more adequately described. The disadvantage is that the

total model is much more unwieldy to use in practical applications. To be more functional, the various components of the model can be used separately with an awareness of the greater whole of which they are a part.

One major area that the model does not specifically address is that of individual differences: developmentally, psychologically, and experientially. While the model does provide a framework for better understanding the process of change in individuals in terms of the interaction between forces for change and forces for stability, it does not explore the details of the individual experience. The model also does not identify specific steps to more effectively introduce change.

- *How is this model verifiable? Testable?*

The comprehensive nature of the whole model does not lend itself to easily testing it. The elements may be more readily tested. Those elements include:

- Differences in the ways systems are identified and prioritized
- Process of evaluation of forces for change
- Decisions to adjust or activate forces for stability
- Utilization of islands of stability and how those islands are exchanged

- *Does the model lend itself to identifying specific, observable behaviors-- situations that clearly support or negate the model?*

The model does lend itself to identifying specific, observable behaviors. The behavioral areas identified above are applicable to this issue also.

- *Are there elements of circular reasoning inherent in the model?*

No elements of circular reasoning have been identified to date.

- *Is the underlying model simple? If so, how would it be described? How tightly is the model defined?*

The underlying model is relatively simple. Systems experience a dynamic interaction between forces for change and forces for stability. After evaluating the forces for change, the system decides whether to adjust (change) or oppose the change by invoking forces for stability to maintain the status quo. The implications of this underlying model quickly become quite complex. In a context of multilayered and overlapping systems it is often difficult to agree about the exact nature of the system being observed. Participants may prioritize the systems in different rank orders, leading to differing evaluation criteria when considering the forces for change.

Adjusting to or opposing forces for change affects the tension level of the system which in extreme cases affects the health of the system as it is presently constituted. The extent of changes experienced by a system also affects how clearly the system is defined. This mushrooming effect results in a model that is fundamentally simple but practically complex.

- *Is the model fertile? How have additional ideas already been derived from applying the model to situations?*

The model has proven to be quite fertile. The mushrooming effect described above is an example of how the model leads to new avenues of exploration. The identification of two continuums, tension and degree of change, provides a new way of analyzing organizations. This has provided insights into organizations under great stress, especially those that experience dramatic, rapid reorganization. Examples of this include organizations which are forced into either chapter 7 or chapter 11 bankruptcy. The cybernetic concepts of negative and positive feedback help explain why very different behaviors may be eliminated or reinforced at different points on the tension continuum.

The concept of islands of stability was developed through the examination of how variable systems are in their receptiveness to change. Even within their own systems, individuals and organizations demonstrated very different evaluations of forces for change and the reactions required. When explored further, these stable areas were identified.

The tension and degree of change continuums grew from the fundamental model. Descriptions of systems at different points on the continuums led to combining them and creating the nine-box assessment tool. This tool was developed and refined using the basic tenets of the model and then examples provided during the interview process.

- *Does the model have an element of unpredictability? Does its application create surprises in what is learned?*

The model has already provided a number of surprises. A surprise was the

concept of latent and active expression of the forces for stability. This led to an exploration of the process of activating latent capability and the likelihood that internal forces for stability were limited, a phenomenon which helped explain how a system could suddenly disintegrate or reorganize rather than continue to oppose change.

Another surprise was the importance of the definition of a system to exploring the change process. Such definitions are usually assumed and assumed to be similar to others involved in the same situation. Both the process of defining and the differences in definitions certainly affect the process of deciding about change and the descriptions of the process.

An additional surprise was the nine-box assessment tool. The development of such a tool was not anticipated but grew naturally out of the exploration of the model.

- *How do values play a role in the use and results of the model?*

The model was specifically designed to be open to identifying the entire range of values used by systems in their evaluation of forces for change and decisions about adjusting to or opposing them. The model is not designed to make judgments about whether such evaluations and/or decisions are "good" or "bad." The model is simply designed to aid in the identification and description of those processes and their outcomes.

The conceptualization of the model is based on some fundamental values. Groups and individuals make decisions, based consciously and/or subconsciously ,on the information and values they have at the time of the decision, that are designed to further their own self-interest. When such decisions are not understood and/or

accepted by those outside of the decision-making process, differences may result in how systems are defined, how they are prioritized, and how forces for change are evaluated.

CHAPTER VI

FIELD EXPOSURE

Introduction

Purpose of the field exposure

The *dynamic model of systems change* was developed utilizing a combination of various formal theoretical constructs and personal experience implementing and participating in organizational and personal change. During this development stage there were also frequent interactions with a number of individuals who function professionally as change agents with organizations and individuals. The final stage of the development process was to take the model into actual change situations in a variety of organizations. The purpose of this field exposure was to explore elements of the model with individuals actively involved in particular change situations. The outcome desired from this series of interviews was to gain an initial assessment of the face validity of the basic elements of the model and to expand on those areas of the model still most loosely defined.

Lessons learned from the interviews were incorporated into the model during the actual interview and during later reflection. The formal description of the lessons learned and how they impacted the model was created at the conclusion of the interview process.

How this differs from a validity testing process

This field exposure was not designed as a formal test of the validity of the model. A formal test of the validity of the model could entail quantifying elements of the model and then proceeding with a study designed to determine the nature of their correlations. The model could also be utilized by a number of persons to analyze particular organizations. The nature of their analyses could then be compared to determine the similarity of their assessments. The outcome of both of these approaches would be a statement summarizing the extent of the validity of the model.

The field exposure was not designed to achieve this outcome. The model was still in the development stage during the field exposure. The interviewees were invited to assist in the refinement and expansion of the model rather than test its validity. Elements of the model were freely discussed with those interviewed and their comments and observations requested. They were asked if the model made sense to them, if it was useful as they thought about change in their organizations and in their personal lives, and for examples of the model's dynamics at work. This field exposure was designed to engage those interviewed in a collaborative process, the purpose of which was to improve the model.

Interview Process

Identifying Interview Sites

The field exposure process was designed to identify four organizations as sites for 16 interviews. The actual field exposure process included a total of 20 interviews in five organizations. An additional set of interviews was added when the interviews at one of the sites proved less helpful to the process. Each of the sites was an identifiable unit within a larger organization. Those sites included a division of a Midwest-based industrial and consumer manufacturing company, a technical services unit of a Midwest based bank, a sales office of an insurance company, a property development division of a Midwest based retail firm, and a consulting division of a foundation. In each of the five sites a contact within the organization was identified who helped in selecting a change process in progress that met the selection criteria and four individuals to be interviewed. These four individuals were selected to represent a variety of perspectives on the particular change process in which their organization was engaged.

The sites and the organizational contacts were identified utilizing a network of personal contacts. While this network of personal friends was used to identify sites, the interviewer did not have a personal relationship with any of those interviewed. One interviewee had been met once previously at an unrelated meeting at his corporation. All others were met for the first time at the time of the interview. Interviewees were asked to assist in the process of refining the model. In exchange, they were able to learn more about the model through the interview, as well as receive a summary of the model at the conclusion of the process. A follow-up meeting with groups of

interviewees and client contacts at each site was offered.

Interviews were completed in two cycles. After the first cycle, which included eight interviews in two sites, the model was revised. A second cycle of interviews, 12 interviews in 3 sites, was then completed and the model revised again.

Logistics of Interview Process

Those to be interviewed were mailed a standard invitation letter (see Appendix A) which included an Informed Consent Form (see Appendix B). A follow-up telephone call confirmed their participation. All prospective interviewees agreed to participate. Of the 20 people interviewed, 14 were male and 6 female. All were white. An interview date and time were agreed upon and all interviews took place at the interviewee's workplace. If the interviewee had a private office, the interviews took place there. In other situations, conference rooms were utilized to ensure privacy.

The interviews were scheduled for 1 hour. As the end of the hour approached, verbal note of this was made. Three interviews were concluded at that time due to scheduling constraints. The longest interview extended an additional 40 minutes. Of the 20 interviews, 14 were between 1 hour 10 minutes and 1 hour 20 minutes. In each situation where the interview extended beyond the hour, it was the interviewer who ended the discussion rather than the interviewee.

Upon completion of each of the interview cycles, a thank you letter was sent to each interviewee thanking them for their participation. The letter included a list of the common themes that arose in the interviews in that cycle. A letter was also sent to the organizational contacts to express appreciation for their assistance in arranging the

interviews at their sites. Once the model was completed, a summary of the model was mailed to each interviewee and organizational contact.

Nature of the Interviews

Interviews were conducted in an informal style that utilized an interview protocol to guide the discussions (see Appendix C and Appendix D). The order of questions in the protocol was not rigidly followed to allow for the natural process of each interview. All topics in the protocol were explored by the end of each interview. There were three rather distinct, subject-related phases for the interviews. The origins of these phases could be detected in the earliest interviews and became more distinct in the second cycle. The first phase was a discussion of the interaction between the forces for change and the forces for stability. The second phase was an exploration of how this interaction occurs and the forces for change are evaluated in different, overlapping systems. The final phase was a discussion of the tension and degree of change continuums and how the model combines them into an assessment tool.

Interviews were initiated with a brief description of the purpose and form of the field exposure process. Interviewees were told of the development of the model and the two cycles of interviews that constituted the field exposure process. They were invited to collaborate in refining the model. Using the first question on the interview protocol, interviewees were then asked to describe their perception of the current status of the change effort identified for their organization. Responses to this question varied greatly. Some were quite long while others were very brief. Most interviewees provided extensive descriptions of the specific details of both the change and why it

was taking place at that time. There were often discernable "official" rationales for the changes. These were usually delivered in a more rote approach, as if reciting a prepared statement and were repeated by one or more other interviewees from the same site. In five interviews the descriptions of the change included details of efforts to slow down or halt the change.

The interviewer then introduced the core concept of the model of the interaction between the forces for change and the forces for stability. To facilitate this explanation in the second cycle of interviews, this interaction was drawn in a manner similar to Figure 4, using pen and paper. This visual tool assisted the discussion as well as invited them into the collaborative process. The interviewees often referred to the drawing as they responded. The interviewer related the interviewee's description of the change to the model, especially identifying the forces for change. Using the model as an aid, the interviewees were asked to talk more about these forces for change. Interviewees were then asked to describe the forces for stability affecting this change.

Those interviewed in the first cycle had difficulty describing the various systems of which they were a part when asked to simply to identify them. Early interviewees often had difficulty with the term *system*, especially if they were involved in computers and computer programming. The term "system" had such a specific application in that environment that it was often difficult to use the term in a alternative way, even when a new definition was provided. The alternative terms *groups* and organizations were often used in this context. In the second cycle this line of questions was proceeded with a drawing of a diagram, similar to Figure 11 and the labeling of the different systems based on the information previously provided by the interviewee in the interview. The visual tool greatly facilitated this discussion. Interviewees were

then able to discuss not only the overlapping formal systems but usually added the informal systems on their own.

From the first interview, the tension continuum was demonstrated by the interviewer using two hands pressing against each other. The tension could be observed by the interviewee as the pressure was increased. In the second cycle of interviews, this was augmented with a drawing of a visual tool, similar to Figure 6, which also assisted the discussion of the combination of the tension continuum and the degree of change continuum in the second cycle of interviews. Prior to the use of such a visual tool the discussions proved too abstract for the interviewees to grasp the concept and provide useful feedback. Second cycle interviewees were usually readily able to place their own organizations on each of the two continuums. These discussions resulted in the development of the nine-box assessment tool.

The 20 people interviewed demonstrated a wide variance in interest in the general topic of change and the model under discussion. Most, but not all, were very interested in the general topic of change. Some seemed genuinely interested in the concepts, while others were simply dealing with the practical aspects of the amount of change they were having to personally make. Interest in the concepts was demonstrated by interviewees suggesting common elements among change experiences rather than focusing on apparently cause-and-effect experiences with change. Greater interest in the concepts was usually accompanied with the interviewee asking questions about the model and obviously using it to better understand various changes they were encountering. Those with a more practical orientation were less likely to interact as much about the model and focused more on telling stories about their change experiences.

Review of Audiotapes

All interviews were audiotaped. After each interview the tape was reviewed and portions of the interview transcribed. Those portions generally not transcribed were the interviewees' often lengthy descriptions of the current change process and the interviewer's description of the basic elements of the model. Transcriptions focused on interviewee reactions to the model, suggestions, and examples of model elements.

The audiotapes and transcriptions were reviewed again at the conclusion of the interview process. From this final review, the lessons learned and their impact on the model were identified and described.

Lessons from Interviews

Overall Observations

The interviews provided opportunities to confirm and challenge elements of the original model. They also provided an environment to revise and expand the model. In the first cycle interviews, the feedback was primarily confirmation of the core element of the model--the interaction between the forces for change and the forces for stability. Interviewees expressed more uncertainty, or even confusion, about the elements that were built upon it--the two continuums--and those elements used to identify the system experiencing the forces--the multilayering and overlapping of systems and their definition. Initially, where this uncertainty was expressed by those interviewed, it was difficult to discern if the model was in error, too abstract for easy comprehension, or

too weakly described. As the number of interviews completed increased, the description of the model became more refined and there was less uncertainty expressed by interviewees. The conclusion drawn from this was that the model had been too abstract and weakly described in the earlier interviews.

The core model was readily accepted by all interviewees. They were all immediately able to see how forces for change are present and sometimes lead to very significant changes while at other times do not lead to changes. For many it was more difficult to identify forces for stability, even in the larger scale changes used as illustrations. Generally, interviewees found it more difficult to identify the interaction between forces in less dramatic situations. These include situations where change may or may not take place. Examples provided by the interviewer helped in improving understanding of the concepts. Many interviewees reported that they had never thought about this dynamic. The majority said they found it helpful to conceptualize it in this way.

The concept of the multi-layering and overlapping systems proved to be too abstract to describe well verbally. Attempts to proceed in this way during the first cycle did not result in useful dialogue on the topic. Although a few interviewees demonstrated some understanding of this concept, most found the language quite foreign. This fundamental concept in systems theory was not as intuitively obvious as expected. It took the drawings in the second cycle to establish sufficient communication to elicit feedback on this aspect of the model. Once this foundation of understanding was established, the interviewees always confirmed the model's assumption that each system would have different criteria for evaluating forces for change and making decisions whether to change or oppose a change.

The tension and degree of change continuums also proved to be too abstract to be understood easily when described verbally. Only a few interviewees in the first cycle were able to grasp the nature of the continuums and enter into discussions about their application. The others were polite but much less able to react to the concepts, even when more description was provided. In the second interview cycle the description was refined and drawings used to illustrate the concepts. In these interviews the interviewees were much more able to demonstrate their understanding of the concepts through their comments, questions, and examples. The questions raised during this phase were nearly always clarifying questions rather than challenging the appropriateness of the concepts. Interviewees had the most difficulty translating the concept of the degree of change continuum into practical examples. They placed most organizations with which they had contact at the low degree of change end of the continuum. These discussions on the two continuums led to the development of the nine-box assessment tool. As this tool became more refined the conversations became more focused and helpful in making further refinements.

Support for Concepts

The basic elements of the *dynamic model of systems change* were confirmed by those interviewed. These elements included the core model that describes the interaction between the forces for change and the forces for stability. They confirmed the elements built upon this foundation, including the tension and degree of change continuums. They also confirmed the complexity of multi-layered and overlapping systems and the reality that each system has its own unique interaction between the

forces and its own unique continuums. There were many variations of the refrains, "That makes a lot of sense," and "I never thought about it that way." Also, after interviewees described a situation, the applicable elements of the model were described to them. Frequently, the interviewees adopted the model's vocabulary in later references to similar types of situations.

When it was introduced, all interviewees immediately acknowledged and used the concept of forces for change. The introduction of this concept immediately followed their description of the change process and why it was taking place at that time. It was a rather short jump for them to see the "why's" as forces for change. Most interviewees could see that the forces for change might originate either external to the system or within the system. Two had difficulty accepting internal forces for change and held to their position that all such forces are really external to the system. They felt that unless there were such external forces the system would remain unchanged. There was general agreement that usually the initiating Force for Change is external and that internal forces for change are system responses to the initiating force. Several interviewees suggested that the one exception to this dynamic would be a change in the senior person in the system hierarchy. In two of the changes, under discussion, it was a new CEO or manager who was identified as the initiating Force for Change. In both of these situations there had previously been forces for change that had not resulted in the current change. The new person was seen as the initiator of the change.

Examples of the types of forces identified in two of the interviews were:

We have met recently with one of our large customers ... They expressed some very strong concerns about the recycling and so forth of our packaging.

To meet the demands of the market place, you have to shorten up that development time. The current way takes three years. By that time it is too late, the market doesn't need it anymore. We need to shorten up that development cycle to get more products out there in three months, four months. Get the product out there now.

Forces for stability were not as quickly understood. Since these forces exist solely to oppose change they are less easily identified in their own right. They are always in reaction to forces for change. In several interviews there was discussion of the espoused organizational value of the promotion of change. Change was viewed as "good" and any opposition to change was viewed as "bad." One interviewee contrasted this to times in the past where "tradition," a maintaining of the old ways, was highly valued. Opposition to today's changes was not consistent with the new espoused value. This reduced the practice that interviewees had had in thinking and talking about forces for stability. The forces were experienced at a much less conscious level. Because of these facts, forces for stability were also clearly more sensitive subjects for discussion. Interviewees were more likely to describe the actions and motives of others on this topic than their own. Interviewees were able to begin identifying forces for stability when asked both how the changes were being slowed down in their implementation and how they did not contribute to the well-being of the organization.

It became apparent through the interviews that forces for stability, especially internal forces for stability, were so ingrained in the perspectives and experiences of both individuals and organizations that they had become nearly invisible. They were part of the lens through which the system and its environment were viewed. Forces for stability were identified by many interviewees as the values and habits of the individuals and organizations. The most common example of this was the variation of the theme, "That's not the way we do it around here." Most of those interviewed

presented the assumption that a suggested change could be easily dismissed with a statement of that theme. Such a theme and its associated, "If it isn't broke, don't fix it," were seen as powerful forces for stability in the organizations which were sites for these interviews.

Examples of forces for stability identified in the interviews included:

We're all comfortable with the way things have been. We're familiar with the past, and there's always a little inherent built-in resistance to change.

You will find that those who don't want the change, those are the people who assume the new way maybe has shortcomings. Any place they could knock it, they will. That is their way of handling it and justifying: "See, I was right!" Continuing their belief system that it is not the way to go at this time or even in the future.

Someone suggested that every morning get up and try to do something different. Well, I don't want to do that. You get into a routine. You are comfortable with it.

Once the interaction between the forces for change and forces for stability was accepted, it was much easier to understand and accept the concept that there would be increased tension in a system that had stronger forces opposing each other. The use of two hands pressing against each other helped the interviewees experience this tension. Two interviewees used this method of demonstrating points they were making about the continuum. Several interviewees took issue with the existence of the low tension portion of the continuum. They felt that there were too many forces for change impacting on any organization for them to function at that end of the continuum. They could see that historically, when there was not as much pressure to change, there would have been organizations at that point. When the interviewer provided examples, such as bankruptcies and corporate buy-outs, interviewees were able to understand the

concept of bifurcation, the disintegration or fundamental reorganization of a system. When asked for examples, four of the interviewees offered particular work groups that had disappeared under great pressure. Two drew upon their personal lives where one marriage had gone through a crisis and had become quite different while the other's marriage had ended in divorce.

When the cybernetic concepts of negative and positive reinforcement were described the interviewees were able to affirm their understanding and provide additional illustrations of how these phenomena appear in their organizational and personal lives. During the discussions on negative reinforcement, nearly all of the interviewees referred back to the earlier discussions about the forces for stability. In a number of interviews the statement "If it ain't broke, don't fix it," was repeated. Several interviewees also cited significant change efforts introduced in their organizations that, over time, simply faded back to the previous way of operating. The concept of positive reinforcement was more difficult for most interviewees to understand. The interviewees were from organizations that were generally in the middle range of this continuum. Since these interviewees were not part of organizations at the extreme ends of the continuum, they therefore did not have that information to draw upon. One interviewee noted, "I believe that the organization's vision is the way you keep that tension at a level that is creative and not destructive." Two organizations were in the less stable area of the continuum and most interviewees from these organizations identified the change process being discussed as an example of positive reinforcement. Both change efforts had been discussed periodically over many years but had not been implemented. Under conditions of more tension they were suddenly acceptable and became official policy.

The concept of the degree of change continuum made intuitive sense to most of the interviewees. Drawing solely on their experiences in their own organizations, they had difficulty projecting the dynamics of an organization experiencing too much change. In the second cycle of interviews the questioning led interviewees to consider other organizations with which they have had contact. One interviewee observed that a church to which he belonged in the past had started changing so fast that many of the members had left. Three interviewees described social groups they had belonged to that had gone into a crisis and started to change so quickly that the members just stopped caring about it. Two of those groups just ceased to exist. The other group remains in name only. Most interviewees considered their work organization, as well as other organizations in which they participated, to be at the end of the continuum with a smaller amount of change. They struggled to understand organizations at the other end of the continuum. As one interviewee said, "The group that changes isn't as focused. They don't have a plan in place. They are trying to establish that plan."

The multi-layering and overlapping of systems was a concept that first cycle interviewees had difficulty generating from their own experience. Once the complex network of systems was identified and described, as was done initially in the second cycle interviews, all of these interviewees were able to use the tool. They were all able to see how overall organizations, divisions, departments, and work groups were all systems. In the course of talking about the intersystem dynamics, many of the interviewees contributed additional systems to the discussion, including the social systems and informal networks

at work plus the systems that overlapped from outside of their organization, such as family and professional groups. When it was posited that each individual participant in these systems rank ordered the systems, all interviewees acknowledged that they could immediately think of the order of importance for their systems. Most interviewees then reacted with momentary silence when the interviewer suggested that all of these systems had their own criteria for evaluating forces for change, deciding whether to oppose a change, and positions on the two continuums. The interviewer suggested that such differences among systems might often contribute to conflict among individuals and among those systems due to the differences in which system was ranked most important and how the systems might differently evaluate forces for change. Interviewees agreed to this concept with brief comments such as, "That makes a lot of sense to me," and "That's right but I never thought about it before like that." The comments that followed were invariably that they had not thought about it in quite that way but it made sense to them after what they had just learned. This was the portion of the interviews that nearly always was the time when the interviewees were most reflective.

Nearly all of the interviewees identified themselves as "change agents." They described their roles, especially in their work situations as instigators, planners, and reviewers of various change. Nearly all of the interviewees also were able to identify how they had taken action to maintain some form of the status quo. Such information confirms the concept that everyone can be both an agent for change and an agent for stability, sometimes even in the same situation. The choice of which label to apply is often more of a factor of which aspects of the situation are considered than whether

both labels might be appropriate. Several interviewees reported they were formally identified as agents of change in their organizations although they had been identified as an agent for stability by the organizational contact. None of the interviewees reported that they had been labeled by others or by themselves as "resisters" to any particular change. Interviewees reflected that, in the organizations involved in this field exposure, it is more socially acceptable to be a agent for change (or change agent) than to step forward as an agent for stability.

Comments about agents for change were much clearer and direct than comments about agents for stability. Interviewees who identified themselves as agents of change were often the most animated about the importance of causing particular changes. The comments below were demonstrative of that attitude.

Some of us don't enjoy the status quo of knowing what's going to happen before the end of the day. ... Those people tend to be change agents because they like those kinds of things. Similarly, those who like more predictability tend to move into smaller work groups that tend to be more stable. Whereas the people who are change agents regard the world as their toy to play with and change.

I think the change agents tend to be regarded as a threat to those other people. I'm not sure about the other direction. Those smaller stable oriented people want the status quo and to keep their values. And keep being valued. I don't regard them as much as a threat as an obstacle. Preferably to convince them to go along, or to crash through or jump over, depending on what's required.

Challenges to the Model

Elements of the model were not significantly challenged during the interview process. There were three areas where the model was challenged: change being assumed to be a discrete, isolated event; forces for stability existing in all situations; and

the exclusion of a discussion of individual differences. There were many instances where interviewees appeared puzzled or asked for clarification on descriptions of particular elements. Additional information was provided at those times and the interviewees were asked if they were then clear, and if not, to describe where it was most unclear. In most situations they responded that they understood, but there were several situations where they felt most uncertain about the description. Further information was then provided, and the question about clarity repeated. In a few situations this cycle was repeated several times. This process not only helped in reach immediate clarification but also assisted the interviewer in improving the descriptions of the model's elements.

An important challenge made by two early interviewees was an apparent assumption that change was a discrete, isolated event. For these two interviewees, change was a process, with no clearly definable beginning or end, that took place in a context of many other changes, some related and some not. Although change had not been presented in the model specifically in an isolated context, there was no acknowledgement of the more integrated context that would be consistent with a systems approach. This challenge had an impact on the model.

The description of the interaction between the forces for change and the forces for stability was written in more discrete terms, as if the change was a point in time. Interviewee after interviewee described a change process that was taking months, even years. They described changes that changed again, often before being implemented. The language describing the model was modified to more clearly include this sense of process rather than a singular event.

Change was described by interviewees as an open rather than isolated context.

Integrating this thinking into the model had two effects. The first effect was the interaction between the forces for change and the forces for stability when described as an ongoing interaction that could result in a different evaluation and change decision at any time. The accumulation of decisions could be experienced as either forces for change or forces for stability. The second effect was the development of the concept of the cascading nature of organizational change. Each change made on behalf of one system has the potential effect of increasing or decreasing the forces for change, as well as possibly the forces for stability, for itself and for other systems. As one interviewee described this process, "The president made the decision that the whole organization was going to make this change. Now we are trying to figure out what we, in our department, have to do differently to actually make the change happen."

Three interviewees challenged the assumption that there are always forces for stability present. They hypothesized that there might be some situations where a force for change might be present without there being even a latent force for stability present. They drew on their experience with some changes happening so quickly that they believed that there must not have even been potential for opposition. Exploration of their examples, less significant aspects of work routines, did not provide sufficient support for their position to warrant changing the assumption in the model.

A majority of the those interviewed raised questions about individual differences in being receptive or oppositional to proposed changes. They cited numerous examples of how people differ in their response to change. They were interested in knowing how the model accounted for such differences. They were told that although the issue was important, the model did not address it. The issue was deemed to be more adequately addressed in models about individual differences rather

than in a model of systems change. The common point between the two types of models was in the evaluation of forces for change and decisions to change or oppose changes.

Expansion of model

The interviews provided not only opportunities to rethink and refine the original model, they provided the opportunity to expand the model. These expansions were focused in three areas: the identification of islands of stability; exploration of the concept of latent and active forces for stability; and expansion of the two continuums, tension and degree of change, into a nine-box assessment tool.

In the first cycle of interviews nearly all of the interviewees described examples of how systems they know were not uniform in their receptivity to changes being made in various parts of the systems. Changes were observed to be made easily in some areas while being strongly opposed in others. The rationales for these differences were not readily apparent to an outside observer. The discussions focused on those areas where change was strongly opposed. Interviewees made these observations but were unable to suggest any unifying concepts to explain them. Over the course of several interviews the interviewer suggested two such concepts: 1) a system experiences its definition in what remains stable within the system and 2) anchors may provide stability in the face of change. The result of this combination was the theory that these ultra-stable areas were important to the system's self-definition and provided a haven from the pressure from the forces for change. These areas were labeled islands of stability. This concept was tied directly to the model through the assumption that such islands are considered differently when a system is evaluating forces for change.

Those individuals interviewed after the establishment of this concept were introduced to its description and were uniform in their acceptance of it. Their input contributed to the assumption that both individuals and organizations have such islands and that some require very large islands while others require only very small ones. This usually led the conversations to the issue of individual differences and what might account for these differences. Many of the interviewees talked about how the islands of stability concept works in their lives. For some, generally their work setting was an island of stability while changes, e.g., new babies or divorces, took place in their home life. For others their home life was a major stability point while they adjusted to many changes at work. Others described how certain tasks or responsibilities at work provided that stability for them. In organizations, they immediately identified departments or even divisions that remained much more stable while the balance of the organization changed at a much more rapid pace.

Included below are comments from interviewees that illustrate their experience of islands of stability in their lives.

I need some stability while I am going through the other changes and this will be my stability.

I think I am focusing on part of my job, change is change. Now, I like to stay pretty stable in certain areas as well.

In response to questions, the interviewees were consistent in stating their belief that systems do not usually consciously choose their Islands of Stability. They also supported the assumption that systems actively seek new islands when an existing islands are lost. The concept of islands of stability lends itself to numerous applications and further exploration.

One idea that began to germinate during the initial period of developing the model was that there were both latent and active forces for stability. The interviews were used as an opportunity to explore these concepts further. That exploration was hindered during the early interviews because many of the interviewees were having difficulty understanding the general concept of forces for stability. Once the explanation of that concept had been refined and interviewees able to identify and discuss these forces, it was possible in later interviews to suggest that such forces might be present but latent until needed by the system to oppose a particular change. The assumption was that when a system completed evaluation of forces for change and decided to oppose them, it did not then need to create the needed forces for stability, only activate sufficient forces to oppose the forces for change. Interviewees were much more able to identify forces that had been activated. At first these interviewees were not supportive to the latent concept. An important notion that arose from these discussions was that it was the internal forces for stability that were most often used to oppose a particular change. This led, in later interviews to review the list of activated forces for stability previously generated in the interview and ask where they were before they were needed. Since most of these were such forces as organizational cultures, work habits, and roles and expectations it was quickly apparent that they neither suddenly appeared nor significantly changed at that moment. What had changed was a consciousness of them and often a utilization of them in discussions about the proposed change. The effect would be to oppose the forces for change aligned to bring about the change. The final interviewees could understand and affirm this description of latent and active forces for stability.

The potential of combining the positioning of organizations on the tension

continuum and the degree of change continuums was beginning to emerge at the conclusion of developing the initial draft of the model. The interviews were expected to be an opportunity to explore the value of such a combination. The early difficulty in interviewees understanding the two continuums delayed this exploration. During the second cycle of interviews this became a reality. The foundation for this discussion was created by hand drawing first the tension continuum during that discussion and then adding the degree of change continuum as an upright axis (see Figure 8). This approach dovetailed into earlier discussions about the other continuum since there had already been references to decisions to change or not to change as well as placement of various organizations on each continuum. When the discussion about the degree of change continuum was completed it was easy to suggest that organizations' positions on the two continuums could be plotted together. These later interviewees were consistently in agreement with this process. It became a natural step to then draw four additional lines across the drawing and create the nine boxes. Brief descriptions of organizations found in each box were presented. Interviewees were most in agreement about both the descriptions and the likelihood of organizations being located in the three boxes along the *Low Degree of Change* portion of the axis. They also supported those descriptions associated with the *Medium Degree of Change* portion of the axis. They supported the assertion that the middle box--*Medium Tension/Medium Degree of Change*--was the healthiest, most preferred position. With some further development, they also accepted the description of organizations in the box associated with a *High Tension and High Degree of Change*. Interviewees had such difficulty imagining an organization in the *Low Tension/ High Degree of Change* box that they could not agree to any description. A development in the last interviews was the suggestion that

organizations move around from box to box and there might be some common patterns to that movement. One that was brought up by two interviewees and reinforced by three others was movement along the *Low Degree of Change* boxes from *Low Tension* to *High Tension* and rapid movement to the *High Tension/High Degree of Change* box. The interviewees at the end of the second cycle expressed both their interest and their sense of the potential of this assessment tool. The descriptions of organizations to be found in each box and the nature of their movement from box to box is a fertile area for further thought and research.

Summary Comments

The interviews have provided a rich opportunity to take the concepts created within the model into real world situations where forces for change are experienced and some changes made and some opposed. All the interviewees proved to be very cooperative and eager to talk about their change experiences, both the designated change for their organization and other experiences. In some of the interviews, keeping the discussion focused on the elements of the model proved more challenging when interviewees wanted to provide more detail than was required about their organization or became excited about some aspect of their experience. The outcome of the process was a significant contribution to the confirmation, refinement and expansion of the model.

CHAPTER VII

CONCLUSION

I started this journey to better understand why individuals and groups support or resist change. I discovered that to address this question I first had to have a much clearer understanding of how change occurs. To my surprise, in pursuing that understanding, I found that the fundamental change process is actually a rather simple act. What makes understanding change so difficult is the incredibly complex web of situations, information, and perspectives that form the contexts for the change decisions. Each decision to change or oppose a specific change is quite unique. I felt challenged to describe the dynamics apparent in these encounters.

As I embarked on this journey of discovery and description, I immediately began to experience several threads that I would be following. The first thread was value oriented. I took the position that I needed to assume that all those in change situation were acting in ways designed to help them and their concept of their organization reach the best possible outcome. This thread led me to ask questions I had not asked before, and to some unexpected learning.

The second thread was quite practical. It started as a single thread but quickly split into two interconnected strands. I became aware of this as I became excited about the equilibrium to far-from-equilibrium model created by Ilya Prigogine. I immediately began to see the application of this model, developed to describe change in systems in a physics environment, to describe changes made in human systems. This led me first to Kurt Lewin's force field analysis to better understand Prigogine's model in human situations, especially the factors which might contribute to higher tension within

systems. The outcome of this exploration was the concepts of forces for change and forces for stability which have common elements with Lewin's driving and restraining forces. Lewin's work helped to conceptualize forces for stability as maintaining the status quo by opposing forces for change. This led to my thought that forces for stability have a latent capacity to be expressed. Forces for stability are activated to support a decision to oppose a particular change. This thread led me on to the question of how and why such forces are activated. This question, in turn, brought me back to the evaluation of forces for change. Evaluation criteria became an obvious concern at this point. I could see that my concern for multi-layered and overlapping systems could be an important factor here. Merging the evaluation process with my belief that everyone chooses particular systems which are most important, led to another explanation of why some people welcome a specific change while others oppose it. If they regard very different systems as their top priority, they will use very different criteria to evaluate forces for change.

Meanwhile, I also continued to follow that portion of the thread which applied Prigogine's model directly to individuals and groups. I looked at how social systems respond to differing levels of tension. I found his use of cybernetic negative and positive reinforcement to be very helpful. I could see how at low levels of tension negative reinforcement would predominate. As I applied these concepts to several organizations in which I was working, I could also see how positive reinforcement could become more common as the tension level rose. In looking at how organizations respond to even higher levels of tension I came to believe that bifurcation was not uncommon. The recent failure of many savings and loans as well as airlines demonstrates that under extreme tension organizations could either disintegrate or

reorganize in radically new ways. That understanding completed the application of Prigogine's model to human organizations.

A final thread was the concept of definition of systems, whether individuals or organizations. In the complex environment of multi-layered and overlapping systems, the definition process takes on both new importance and difficulty. Differences in definition, including priority, certainly create difficulties, including conflict, for many people. This definitional process certainly impacts on the evaluation of forces for change. It also leads to seeing change as more than simply a change in behavior or even values. Changes also become changes in the definition of the system. As new patterns become ingrained in the operation of the system, they are reflected in how it sees itself. They are integrated into the stable aspects of the system. I came to see how the definition of a system is embodied in what is stable within the system. This thread led me to appreciate again the value of the stable parts of any system--individual or organization. I realized that some systems change much more frequently and radically than others. I began to explore how the degree of change and the degree of loss of stable areas could affect the system's definition of itself. I perceived a pattern that I described as a continuum. Systems experiencing little change have very rigid definitions of themselves. Systems experiencing extensive change have more loose definitions of themselves. This thread had led me to see how change impacts on the self-definitional process in reinforcing cycles: more change leads to a looser definition which leads to being more receptive to change which leads to more change; less change leads to a more rigid definition which leads to being less receptive to change which leads to less change.

This work with systems led me back to look at the people who make up

organizations, especially those who act as agents for the forces for change and forces for stability. I could see how the process of specialization in organizations contributes to particular people taking on these various agent roles and representing these forces within the organization. Although the agent for change role has more often been described in positive terms and the agent for stability in negative terms, both roles are important to the health and progress of the organization. I recognized that any role, taken to the extreme, may be detrimental to an organization. I have come to believe that organizations, especially when guided by agents of change, have been too ready to label those supporting the status quo as "extreme" and therefore resisters rather than as a natural opposition to proposed changes. In developing my model, I discovered ways in which both types of agents contribute to the health and well-being of organizations. I felt reinforced in my concern that all parties in these processes be honored for their perspectives and contributions rather than denigrated with negatively appearing labels.

There was one concept that grew out of the interview process with a life of its own. That is the concept of islands of stability, a concept that previously had only been vaguely forming in my mind. This idea that everyone, both individuals and organizations, needs some areas that remain stable while other areas are allowed to change, resonated deeply with those interviewed. This was a topic that elicited many questions from interviewees. They could identify islands of stability in their own lives and understand how important these islands had been to them. The concept helped them understand why they had so vigorously defended them even when it had made little logical sense to do so. They had felt awkward, and sometimes even guilty, about their reluctance to change them. There remains much to be done in examining how such islands are identified and what steps are naturally taken to substitute islands. This is

especially important when it becomes apparent that one island needs to change. I believe that new islands can be and are substituted for old ones. Agents for change can potentially reduce much unexpected opposition to their proposed changes if these islands are anticipated and a productive process of substitution initiated. The role of islands of stability in extremely revolutionary changes needs more exploration. The islands of stability concept was one of the most surprising developments from this theoretical exploration.

I began this journey by being interested in how people experience change processes and how they choose different alternatives to such processes. The journey led me through extensive exploration of systems theory and group interactions within organizations. I learned much along the way and found myself, in the end, again looking at individuals. I have observed a coherent wholeness in the entire process as I returned to my opening question. This time I feel I have a much richer understanding of the dynamics these individuals experience as they face change.

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Appendix A
Interview Invitation Letter

Dear (name):

My name is Richard Weaver and I am a candidate for a PhD at The Fielding Institute. I am conducting a study which is developing a model for describing the ways both the forces for change and forces for stability contribute to the health of organizations. I need your help to understand how change is taking place at (organization name). I will be interviewing several people in your organization as well as people in other organizations.

(Organization contact) suggested it would be beneficial for me to interview you. You were described as having an interest in change processes, especially (current change effort), and a general concern for the well-being of the organization. I am asking you to participate in an interview so I can learn more about how you see this working.

This interview will take approximately one hour and would be scheduled, at your convenience, during the week of (dates). The information you provide in the interview will be held in confidence. Your anonymity will be maintained. Reports that arise from the interviews in several organizations will focus on the strengths and weaknesses of the model not the details of activities of the organizations.

I invite you to agree to participate in the interview. I will be telephoning you on (date) to followup on this letter, answer any questions you may have about the study, and, hopefully, schedule an interview.

Sincerely yours,

Appendix B
Informed Consent

Dear (participant's Name)

RE: Informed Consent Form

I am Richard Weaver, a student at The Fielding Institute. I am conducting a study which is developing a model for describing the ways both the forces for change and forces for stability contribute to the health of organizations. A draft of the model is complete and elements of it are now being explored in personal interviews.

You are being asked to participate in such an interview because you are currently an employee of (organization) and were described as having an interest in change processes, especially (current change effort), and a general concern for the well-being of the organization.

The interview, expected to be one hour in duration, involves responding to a variety of questions. The interview will be audiotaped. The audiotapes and any transcripts will be destroyed after the conclusion of the study. The content of that tape will be available only to the Richard Weaver.

There are no specific benefits or risks for you in participating in the study. There will be no payment for participation in the interview. Of course, you have the right to withdraw from the study at any time without prejudice or negative consequences.

This interview is one of several in this and other organizations. The information you provide in the interview will be held in confidence. Your anonymity will be maintained. Information from this interview will only be reported collectively. No report will be made that identifies information as arising specifically from this interview. Names of those being interviewed will not be reported in any form. The outcome of the interviews will be revisions of the model. An abstract describing this refined model will be available to you at the conclusion of the study.

If you are interested in the results of this study, please so indicate below. A copy of the abstract of the final version of the model will be sent to you when it is completed.

Please sign one copy of this informed consent form, if you choose to participate in the study and then mail the signed form to Richard Weaver in the enclosed envelope. Keep the other copy of the form for your own files. If you have further questions prior to completing the form, please call Richard Weaver at 612-420-2392.

Sincerely yours,

Richard Weaver

I have read and understand the above and agree to participate in this study.

Name

Date

Please send me a copy of the abstract _____ (✓)

Address:

Appendix C Initial Interview Protocol

CONTEXT: Four 1-hour interviews with participants in an organizational change process.

QUESTIONS:

1. Please tell me about the current status of the effort to introduce _____ (name of change effort) into this organization.
 - Please describe what would be different if this change were to be completed.
 - What are the advantages of such a change?
 - What are the disadvantages of such a change?
2. Please tell me about the various systems you are part of.
 - Please tell me first about the more formal organizational structure.
 - Please tell me about the informal social groups you are a part of.
 - Do you ever experience conflicts between any of these formal and informal groups? How are these conflicts resolved?
 - Do any of these systems ever need to be protected from a larger system in order to better do what they are supposed to do? How are they protected?
 - How do you choose which system is most important to you?
3. Please tell me about what contributed to focusing on this effort at this time?
 - Which of these forces were external? How were they experienced?
 - Which of these forces were internal? How were these forces experienced?
 - Were these new forces or increases in older forces? How was this change in force experienced?
4. Please tell me about what is contributing to not adopting this change, at this point in time?
 - Which of these forces were external? How were they experienced?
 - Which of these forces were internal? How were these forces experienced?
 - Were these new forces or increases in older forces? How was this change in force experienced?
 - Why do you think you experienced this force more now?
5. Do you believe that this change will be completed?
 - When do you think it will be adopted?
 - What additionally must happen before it will be completed?
 - Do you believe the change will persist or fade after a time?
 - What would support its persisting?
 - What would support its fading?

6. What are the signs of tension in the system?
 - How relaxed is the atmosphere? What are people most excited about in this organization? What causes them the most fear?
 - How do people experience cooperation between individuals and between work groups? Conflict?
 - How easy is planning and execution completed?
7. How open is the system to change?
 - How willing are people and groups to take risks? What happens?
 - How is the system changing in ways other than the effort in question?
 - What are areas of the system that do not change?

Appendix D Second Interview Protocol

CONTEXT: Four 1-hour interviews with participants in an organizational change process.

QUESTIONS:

1. Please tell me about the current status of the effort to introduce _____ (name of change effort) into this organization.
 - Please describe what would be different if this change were to be completed.
 - What are the advantages of such a change?
 - What are the disadvantages of such a change?
2. Please tell me about what contributed to focusing on this effort, at this time?
 - Which of these forces were external? How were they experienced?
 - Which of these forces were internal? How were these forces experienced?
 - Were these new forces or increases in older forces? How was this change in force experienced?
3. Please tell me about what is contributing to not adopting this change, at this time?
 - Which of these forces were external? How were they experienced?
 - Which of these forces were internal? How were these forces experienced?
 - Were these new forces or increases in older forces? How was this change
 - Why do you think you experienced this force more now? Were you aware of them before facing this change? How did you experience them before this change?
 - What happened to bring these particular forces to your attention?
4. Please tell me about your experiences in this organization or in other organizations where the organization has changed very little? Too much?
 - Please tell me how the organizations were different from those who changed a more appropriate amount?
 - Do you know of organizations that simply disappeared because they changed too much?
 - Do you know organizations that died because they did not change enough?
5. Please tell me about your experiences in this organization or in other organization where the tension increased because the forces for change were opposed.
 - Please tell me what stands out about organizations that oppose all changes.
 - Please tell me about your experiences with negative reinforcement.
 - Please tell me about your experiences with positive reinforcement.
 - Please tell me about your experiences with organizations that became very different as a result of the tension resulting from opposing major forces for change.

6. Please tell me about your experiences with multi-layered systems. Overlapping systems.
 - Please tell me about situations where two people had different priority systems.
 - Please tell me about situations where the advancement of one system meant the retardation of another system