WALDEN UNIVERSITY

Advanced Knowledge Area Module 6:

Organizational Change Models

Student: Richard E. Biehl
Program: Applied Management & Decision Sciences
Specialization: Leadership and Organizational Change
Faculty Mentor: Dr. Gary Gemmill
KAM Assessor: Dr. David Whitfield

May 2004

Advanced KAM 6: Organizational Change Models

AMDS 8612 – Models of Organizational Change & Development

Abstract - Breadth

The breadth component explores framework of organization change issues, beginning with a discussion of Burrell and Morgan's four-quadrant paradigm model for societal and organizational change and an exploration of Lewin's force field model of change. Several popular management change models are then analyzed using this framework before all of these dimensions are combined in a discussion of change as an emergent byproduct of organizational self-definition and organization. Complexity defines the parameters through which all change within an organization can be viewed as Lewin's force fields and tension at work.

Walden University **Doctor of Philosophy Program of Study**

Name: Richard E. Biehl Student ID Number: 062-50-5682 Enrollment Date: December 1999

Program: AMDS Specialization: Leadership and Organizational Change

	Course Number	Course Title	Quarter to Be Taken	Credits	
Core KAMs					
	SBSF 8110	Theories of Societal Development	Winter 2000-2001	5 Done	
	AMDS 8122	Cross-cultural Aspects of Organizational Change	Spring 2001	5 Done	
	AMDS 8132	Professional Practice and Organizational Change	Spring 2001	4 Done	
	SBSF 8210	Theories of Human Development	Winter 2002	5 Done	
	AMDS 8222	Leadership and Human Development	Winter 2002	5 Done	
	AMDS 8232	Prof. Practice in Leadership and Human Development	Spring 2002	4 Done	
	SBSF 8310	Theories of Organizational and Social Systems	Summer 2000	5 Done	
	AMDS 8322	Current Research in Organizational Systems	Fall 2000	5 Done	
	AMDS 8332	Professional Practice and Organizational Systems	Winter 2000-2001	4 Done	
	SBSF 8417	Research Seminar I: Human Inquiry & Science	Winter 1999-2000	4 Done	
	AMDS 8427	Research Design in AMDS	Spring 2000	5 Done	
	AMDS 8437	Data Analysis in AMDS Research	Summer 2000	5 Done	56
Advanced KAMs					
	AMDS 8512	Classical and Emerging Paradigms of Leadership	Winter 2003-2004	5	**Active**
	AMDS 8522	Current Research on Leadership Development	Winter 2003-2004	5	**Active**
	AMDS 8532	Application of a Theory of Leadership Development	Winter 2003-2004	4	**Active**
	AMDS 8612	Model of Organizational Change & Development	Spring 2004	5	**Active**
	AMDS 8622	Current Research Model Org Change & Development	Transfer In	0 Done	
	AMDS 8632	Application of an Organizational Change Model	Transfer In	0 Done	
	AMDS 8712	The Case Study as a Research Technique	Winter 2003-2004	5	**Active**
	AMDS 8722	Case Study Research in Leadership and Org. Change	Winter 2003-2004	5	**Active**
	AMDS 8732	Leadership or Organizational Change Case Study	Spring 2004	4	33
Electives					

Transfer Credits

Course Number	Course Title	Quarter	Years	Institution	Grade	Credits
ECTI Program	Walden ECTI	-	1997-1999	Walden University	4.0	9 Done

Total Credits

9

Dissertation: Implications of Systems and Complexity Theory on Organizational Process Maturity 30

Minimum Quarters of Enrollment: 10 Grand Total Credits 128

Student's Signature: Richard E. Biehl Date: Status as of May 2004

FYA/FM Signature: _____ Date: _____

Program Director's Signature: _____ Date: _____

VPAA's Signature: _____ Date: _____

Learning Agreement Approval Form

Received via e-mail on February 12, 2004…

From: <Diane.Krusemark@waldenu.edu>
To: <rbiehl@waldenu.edu>
<<david@learnleadcoach.com>
Subject: Learning Agreement--KAM 6 [Biehl R.]
Date: Monday, February 09, 2004

Rick and Dr. Whitfield,

Because a student can only have two LA's outstanding at a time, I will wait to process this LA until either KAM 5 or 7 is processed. Please let me know if you have any questions.

Thank you!
Diane

Diane Krusemark
Academic Records Associate
Walden University
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First assessor comments:
I approve this Learning Agreement for KAM 6.
>From the skeletal outline of the LA, Mr. Biehl has laid out an excellent framework regarding the different theorists and their works on social and organizational change. I look forward to working with him on this KAM.

Approved Learning Agreement

Learning Agreement

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Learning Agreement Submission: February 2004
Targeted Completion for KAM: March 2004

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Learning Agreement

Advanced KAM 6: Organizational Change Models

Introduction

This Learning Agreement for Advanced KAM 6, Organizational Change Models, describes my plan of study for the AMDS knowledge area on organizational change in which I will explore a framework for understanding a variety of different theories and practices related to organizational change. Hesselbein, Goldsmith, and Beckhard (1997) discuss the effects of change on our thinking about organizations, noting that the way we discuss organizations and change in the future will differ considerably from such discussions in the past. This KAM will work to aid my own transition in such thinking.

Overall Purpose

The overall purposes of this KAM are:

1. To compare and contrast the major theories of organizational change available in the literature on organizational change management; highlighting differences between academic coverage of these theories and the more popular materials available in the general business press. (Breadth)

2. To highlight the implications of this framework for understanding my previous work on education change stakeholders. (Postscript)

AMDS 8612 – Models of Organizational Change & Development

In the breadth component of this KAM, I will explore the large variety of theories that deal with change in organizations. There is great diversity among the various theorists who comprise the modern and postmodern schools of social and change theory. Burrell and Morgan (1979) offer a framework for organizing this diversity in which they characterize various

theories into four quadrants; defined by their perspective continuums of regulation-change and subjective-objective assumptions.

The dominant quadrant – the functionalist, based on objective regulation – provides the foundation for much of management and organizational theory today. Over time, the popularity of any particular theorist varies; but Burrell and Morgan observe that the cornerstone of social and organizational theory generally remains within their functionalist paradigm. Park and Burgers (1972) describe the growth of functionalist sociology as the extension of the methods of the natural sciences to politics and history, increasing the precision of history and observation-based predictions. Government becomes a technical science, and politics a profession. (p. 62) This KAM on change can be viewed as an analysis of any organizational theory that might shift an organization away from this dominant functionalist paradigm.

Discussion of social interactions and change inevitably moves discussion away from Burrell and Morgan's objective end of the continuum that defines their framework, and toward the subjective end. The focus shifts from structure and function toward a more subjective interpretation, or emergent interaction, of and by the actors involved in the system changes being discussed. These discussions take place among the writers that Burrell and Morgan place in their interpretive – or subjective regulating – conceptual quadrant. These subjective discussions allow for great depth in working through the beliefs, motivations, and intentions of the players in the social systems being discussed. The dynamics of organizational change can often be best understood through the interaction of these subjective beliefs, motivations, and intentions.

Burrell and Morgan (1979) offer a framework for categorizing social theoretical models into four conceptual paradigms defined by two different dimensions of analysis: 1) the nature of society, and 2) the nature of social science. (Figure 1) The framework allows individual social

theorists to be placed into context according to the underlying assumptions present in their analysis.

Figure 1 – Burrell & Morgan's Paradigms of Social Theory (1979)

Society	Social Science: Subjective	Social Science: Objective
Radical Change	Radical humanist	Radical structuralist
Regulation	Interpretive	Functionalist

In this breadth component, I will add organizational theorists to their first dimension, and change theorists and models to their second dimension to expand their model of social theories to include more explicit inclusion of organizational and change models. In particular, I will concentrate on the role of change in organizations within their first dimension (the second organizational dimension being better addressed in KAM 1 on organizational theory).

The boundaries between paradigmatic quadrants are arbitrary, and Burrell and Morgan describe significant cross-paradigm influences; although they conclude that the boundaries are actually *too* permeable because of the conceptual dominance of the functionalist paradigm. (p. 397-8) They advocate less short-term interaction among the paradigms in order to provide each an ability to mature ideas and establish themselves as independent "alternate realities." (p. 398) Their ideas are highly suggestive of the postmodern debates that were just beginning to flow throughout the social science community at the time of their writing in the late 1970's.

Burrell and Morgan's depiction of the dimension dealing with the nature of society looks primarily at the distinction as to whether or not the society is depicted as a *status quo* to be

described and defended or as an embodied change, focusing on the ongoing processes of maturity and growth. They describe this dimension as a continuum from regulation to radical change.

Social theories toward the regulation end of the continuum will discuss social order and consensus while depicting social interaction and group cohesiveness. Regulation looks at what actually is, and describes members of society satisfying needs through social mechanisms and relationships that actually exist within the society. Theories of society more toward the radical change end of the continuum will discuss the potentialities that exist within the society; focusing on conflict, modes of domination and control, and the inherent contradictions and inconsistencies associated with on-going change.

Burrell and Morgan's description of their framework dimension dealing with the nature of social theory depicts the key distinction as the subjective-objective continuum. They offer four perspectives under which this continuum can be evaluated: 1) ontological, drawing a distinction between nominalism and realism at the two extremes; 2) epistemological, viewing anti-positivism and positivism as the extremes; 3) human nature, with the debate over volunteerism and determinism defining the extremes; and 4) methodological, with theories ranging from ideographic to nomothetic at the ends of the continuum.

Having four perspectives; in contrast to their opposing dimension for the nature of society with only one defined regulation-versus-change viewpoint; opens the door to confusion as individual social theories are mapped against the continuum. To the extent that individual theories map to a certain point on the continuum in each of the four perspectives, there is no *a priori* requirement that all four perspectives result in the same mapping.

By using their more unified change dimension as the organizing framework for this KAM, problems associated with their multi-criterion society/organization dimension can be

avoided. This KAM will use their depiction of the continuum from regulation to radical change to discuss and understand organizational change.

Breadth Objectives

Specific breadth objectives are:

1. To explore and categorize the various theories for understanding organizational change described in the literature, largely using the Burrell and Morgan paradigms as a framework within which to organize the discussion and presentation.

2. To compare and contrast these theories to develop an understanding of how several popular real-world change models fit into the theoretical constructs developed in the framework.

I am particularly interested in achieving a grounded understanding of organizational change models that I can use in my professional practice to best position and use business change models available in the business press. For example, Hammer and Champy's (1993) "manifesto" for reengineering might be better achieved if recognized as an example of a shift toward the radical structuralist paradigm. Wheatley's (1999) identification of chaotic attractors as strategic planning tools makes more sense if viewed as a shift toward the radical humanist paradigm.

Most popular organizational change models or proposals seem to emphasize a break from Burrell and Morgan's dominant functionalist paradigm, and an understanding of the direction that any particular change model would move an organization within the framework can inform and prepare change agents for the issues that might regularly be associated with a shift toward any other particular position in the framework.

Reference Materials

The reference materials for this breadth component include several of the comprehensive survey works such as Berger, Sikora, and Berger (1994), Nadler, Shaw, and Walton (1995),

Collins (1998), and Kezar (2001); historical and context works that lay the groundwork for thinking about change, such as Ackroyd (2002), Goldstein (1994), Hesselbein, Goldsmith, and Beckhard (1997), and Golembiewski (2003); as well as recent more popular works that describe the relationships between change theory and management, such as Hammer & Champy (1993), and Wheatley (1999). Additional resources are included in the Bibliography.

Learning Demonstration

The result of this analysis will be a written position paper, of not less than 30 pages, that introduces the major categories of organizational change theory before comparing and cross-classifying aspects of each theoretical area for the purpose of identifying threads of support or inhibition that cross theoretical boundaries and constructs the Burrell and Morgan framework. The conclusion will emphasize the systemic nature of change, stressing the similarity and commonalities of change theories when contrasted to the foundational functionalist perspective.

AMDS 8622 (Depth) & AMDS 8632 (Application)

This KAM will not include depth or application components because the credits for both were accepted by John Vinton as transfer credit from my masters program at Walden. My transferred depth component includes my thesis on organizational change agents in education (Biehl, 1999), and the transferred application component includes the publication of that thesis (Biehl, 2000) by the American Society for Quality. I will, however, include a postscript in this KAM that ties the model and thoughts developed in the breadth component forward to those materials. At the time of my thesis research, I was focusing on the role and definition of change agents and stakeholders in educational change initiatives, and was not focusing on the organizational change dimension explicitly. In my postscript, I will explore the implications of Burrell and Morgan's change dimension against my earlier findings, revisiting some of the key

literature that supported my earlier research, including Banathy (1991) and Reigeluth and Garfinkle (1994).

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Self-Evaluation: Knowledge Area Modules (KAMs)

Student Name: Richard E. Biehl Date: May 2004

KAM: #6 Title: Organizational Change Models

1. What knowledge/experience did you bring to this KAM? How did you capitalize/expand on this base?

As a management consultant, I brought experience and knowledge of the popular management change models explored in chapter 4. They allowed me to have a picture in my mind of organizational change in practice, and to explore my knowledge of the origins and foundations of these change models, particularly Six Sigma. Through the readings for this KAM, I came to see these change models as adaptations of more fundamental models in the literatyure, and the framework of those models provided a knowledge base for me to understand how some of these models interrelate with each other.

2. Describe the quality of the **Breadth** section in the light of the intellectual and communication skills demonstrated in this KAM.

I thought I did a good job in this KAM of visualizing the story I was trying to relate. Earlier core KAMs that I produced were more book-report*ish* than this one. Here, I really felt like I developed a thread of knowledge about the field, and used the literature to support telling the story. I think the thread from Lewin's field theory to complexity implications for emergent change is very powerful, and I've really enjoyed the readings for this KAM. I had to be very careful that I didn't keep writing forever (although I did run a little longer than planned). The ties from theory to practice were just so fascinating.

3. In the **Depth** section, what key ideas/concepts most engaged your thinking and imagination relative to your area of study?

n/a

4. Expound on the most meaningful theoretical construct studied and applied to your professional setting in the **Application** section. What can you do differently/better as a result of this KAM?

n/a

5. Briefly describe the most important **Social Issue** covered in this KAM.

I am a change agent in my professional practice and personal volunteering. With the knowledge and insights I gained in this KAM, I'll be better able to work toward change in real world settings. As a social issue, I've become convinced by this research that I have to find a way to incorporate the interactionist perspective into my functionalist Six Sigma practice. Organizations continuing to change based only on functionalist assumptions are not maximizing their organizational return, and may be negatively impacting the individuals in those organizations by nont properly considering the subjective and human issues in change. Such issues invariably open change initiatives to more stakeholders, more relationships, and broadened impact.

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May 2004

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Chapter 1

Introduction

This Advanced KAM 6, Organizational Change Models, describes the arena of organizational change, exploring a framework for understanding a variety of different theories and practices related to organizational change. A set of popular organizational change models will be highlighted using criteria derived from a review of key elements of functionalist sociology, and Lewin's force field theories of organizational change. The theme throughout the this material is from foundational theories to popular practice.

Overall Purpose

The overall purposes of were KAM were:

1. To compare and contrast the major theories of organizational change available in the literature on organizational change management; highlighting differences between academic coverage of these theories and the more popular materials available in the general business press. (Breadth)

2. To highlight the implications of this framework for understanding my previous work on education change stakeholders. (Postscript)

Breadth Objectives

Specific breadth objectives were:

1. To explore and categorize the various theories for understanding organizational change described in the literature, largely using the Burrell and Morgan (1979) sociological paradigms as a framework within which to organize the discussion and presentation.

2. To compare and contrast these theories to develop an understanding of how several popular real-world change models fit into the theoretical constructs developed in the framework.

Hesselbein, Goldsmith, and Beckhard (1997) discuss the effects of change on our thinking about organizations, noting that the way we discuss organizations and change in the future will differ considerably from such discussions in the past. This material in this breadth component explores different dimensions of organization change from the perspective of narrow and broad functional analysis.

The premise of the structure of this presentation is that different models of organizational change available for practice in the popular management literature can be better understood through a foundational knowledge of the social and organizational change models available in the literature. While many management change models are packaged by their proponents as though they are completely new, each is actually grounded in the theoretical foundations of the field, and can be better understood if placed into an accurate perspective relative to functional social epistemology.

Chapter 2

Social Change & Functionalism

Overview

Organizational change is a specific perspective on social change, and much of the literature on social change is dominated by functionalist thinking. This chapter explores the role that this conceptual framework plays in thinking about how organizations change.

Social Change Paradigms

There is great diversity among the various theorists who comprise the modern and postmodern schools of social and change theory. Burrell and Morgan (1979) offer a framework for organizing this diversity in which they characterize various theories into four paradigms; described in quadrants defined by the intersecting continuums of regulation-change and subjective-objective assumptions.

The dominant paradigm – the functionalist, based on objective regulation – provides the foundation for much of management and organizational theory today. Over time, the popularity of any particular theorist varies; but Burrell and Morgan observe that the cornerstone of social and organizational theory generally remains within their functionalist paradigm. Park and Burgers (1972) describe the growth of functionalist sociology as the extension of the methods of the natural sciences to politics and history, increasing the precision of history and observation-based predictions. Government becomes a technical science, and politics a profession. (p. 62)

Burrell and Morgan (1979) offer a quadrant-based framework for categorizing social theoretical models into four conceptual paradigms defined by two different dimensions of analysis: 1) the nature of society, and 2) the nature of social science. (Figure 1) The framework

allows individual social theorists to be placed into context according to the underlying assumptions present in their analysis.

Figure 1 – Burrell & Morgan's (1979) Paradigms of Social Theory

Society	Social Science: Subjective	Social Science: Objective
Radical Change	Radical humanist	Radical structuralist
Regulation	Interpretive	Functionalist

Discussion of social interactions inevitably moves discussion away from Burrell and Morgan's objective end of the continuum that defines their framework, and toward the subjective end. The focus shifts from structure and function toward a more subjective interpretation, or emergent interaction, of and by the actors involved in the system being discussed. These discussions take place among the writers that Burrell and Morgan place in their interpretive – or subjective regulating – conceptual quadrant. These subjective discussions allow for great depth in working through the beliefs, motivations, and intentions of the players in the social systems being discussed. The dynamics of organizational change can often be best understood through the interaction of these subjective beliefs, motivations, and intentions.

This breadth component interprets their model from an organizational perspective that is somewhat narrower than the overall societal perspective from which they offered it. In the

narrower sense, social theory discussions are being narrowed to organizational theory in the horizontal elements of their model, resulting in a framework for looking at organizational change in their model's vertical elements. The addition of organizational theorists to their first dimension, and change theorists and models to their second dimension to expand their model of social theories to include more explicit inclusion of organizational and change models for analysis.

This discussion of organizational change offers an analysis of a set of organizational change theories that tend to shift an organization away from the dominant functionalist paradigm. The Burrell and Morgan model offers three conceptual paths away from functionalism: a) their interpretative paradigm, with an increased role for the subjective while staying highly stable and regulated, b) their radical structuralist paradigm, shifting away from stability toward change while remaining focused on the objective, or c) their radical humanist paradigm, with a complete shift away from both stability and objectivism toward change and subjectivism.

The boundaries between paradigmatic quadrants are arbitrary, and Burrell and Morgan describe significant cross-paradigm influences; although they conclude that the boundaries are actually *too* permeable because of the conceptual dominance of the functionalist paradigm. (p. 397-8) They advocate less short-term interaction among the paradigms in order to provide each an ability to mature ideas and establish themselves as independent "alternate realities." (p. 398) Their ideas are highly suggestive of the postmodern debates that were just beginning to flow throughout the social science community at the time of their writing in the late 1970's.

Burrell and Morgan's depiction of the dimension dealing with the nature of society looks primarily at the distinction as to whether or not the society is depicted as a *status quo* to be

described and defended or as an embodied change, focusing on the ongoing processes of maturity and growth. They describe this dimension as a continuum from regulation to radical change. It is this dimension of change that is of primary interest here.

Social theories toward the regulation, or status quo, end of the continuum will discuss social order and consensus while depicting social interaction and group cohesiveness. Regulation looks at what actually is, and describes members of society satisfying needs through social mechanisms and relationships that actually exist within the society. Theories of society more toward the radical change end of the continuum will discuss the potentialities that exist within the society; focusing on conflict, modes of domination and control, and the inherent contradictions and inconsistencies associated with on-going change.

Burrell and Morgan's description of their framework dimension dealing with the nature of social theory depicts the key distinction as the subjective-objective continuum. They offer four perspectives under which this continuum can be evaluated: a) ontological, drawing a distinction between nominalism and realism at the two extremes; b) epistemological, viewing anti-positivism and positivism as the extremes; c) human nature, with the debate over volunteerism and determinism defining the extremes; and d) methodological, with theories ranging from ideographic to nomothetic at the ends of the continuum.

Having four perspectives; in contrast to their opposing dimension for the nature of society with only one defined regulation-versus-change viewpoint; opens the door to confusion as individual social theories are mapped against the continuum. To the extent that individual theories map to a certain point on the continuum in each of the four perspectives, there is no *a priori* requirement that all four perspectives result in the same mapping.

By using their more unified change dimension as the organizing framework for readings in this KAM, problems associated with their multi-criterion society/organization dimension were avoided. This analysis used their depiction of the continuum from regulation to radical change to discuss and understand organizational change.

Challenging Functionalism

Burrell and Morgan describe the dominance of functionalism in social theory and offer their epistemology for differentiating competing theories and perspectives in such a way that they can be explored and matured without being squashed by the dominant paradigm. Their model offers a framework for supporting an exploration of non-functionalists perspectives, but at a risk that individual components of competing theories will be analyzed outside of their context of interactions under a more unified study. The narrow analysis might miss the broad picture.

Functionalism was explored by Merton (1957) in the broadest sense, also defining and including characteristics and attributes that Burrell and Morgan used to differentiate their non-functionalist quadrants. His was an attempt to codify all of sociology from the functionalist perspective. As a tool, his model offers a different epistemology while seeking the same goals as Burrell and Morgan. Demerath and Peterson (1967) described Merton's model as a "classic delineation" of functionalism.

Merton began by challenging what he viewed as the three prevailing postulates of functionalism at the time: a) the functional unity of society, or the idea that observed cultural items are functional across an entire society; b) universal functionalism, or the idea that all observed social or cultural items fulfill some positive function; and c) indispensability, or the idea that these observed social or cultural items would be indispensable to the functioning of society. (p. 16-23) Merton's arguments against these postulates were largely empirical, noting

that the full integration of society was significantly broader than the narrow primitive societies to have been studied by functional anthropologists who originated the three postulates.

Society was large and complex, and certainly not completely integrated into a unitary whole. The variety of social constructions to which any particular social or cultural item must attach simply precluded the postulate of functional unity. Only a very narrow range of cultural practices would fit the first postulate. Likewise, all societies have rituals, habits, and practices that seem to exist as surviving practices from the past, the positive function of which is minimal, or is sometimes forgotten. The second postulate's assertion that all social practices serve some positive function is simply too difficult to maintain (although Merton's discussions of latent function and the role of dysfunctional behaviors reenergizes this postulate below). Lastly, if the challenges to the first two postulates haven't already made the third moot, he cites numerous examples of social changes substituting practices for each other or whole abandoning other practices. Such functional alternatives or substitutes would invalidate the indispensability of specific social functions.

By challenging the postulates that defined functionalism in very narrow terms, Merton provided for an expansion of functionalist thinking to a broader range of situations. But is social acts weren't necessarily universally applicable across a society, what were they? If the functions served by social acts weren't necessarily positive, then what role would neutral or negative functions serve? And if no particular functions were indispensable, what functions would actually define a social group? Merton offered a list of propositions that further clarified what he deemed an apolitical functionalist model; arguing that functionalism was reported as conservative as often as it was reported as radical. "The fact that functional analysis can be seen by some as inherently conservative and by others as inherently radical suggest that it may be

inherently neither one nor the other." (p. 30) (He offers an interesting point-by-point comparison of his functionalist social model to Marx's dialectic to illustrate his point. [p. 30-33])

Broadening Functionalism

Several of the propositions included in Merton's paradigm for functional analysis involve dimensions or issues that help clarify and expand Burrell and Morgan's functionalism paradigm. Merton was expanding the scope of what could be defined as functional analysis to include these problem areas. (Table 1)

Table 1 – Merton's (1958) Functional Analysis

Problematic Category
1. Functional items
2. Subjective disposition
3. Objective consequences
4. Unit subservience
5. Functional requirements
6. Fulfillment mechanisms
7. Functional alternatives
8. Structural context
9. Dynamics and change
10. Validation of analysis
11. Ideological implications

Note: Adapted from (Merton, 1958, p. 42-94)

The fact that Burrell and Morgan, writing two decades later, would narrow their interpretation of functional analysis and propose three other specific paradigms is a sign that the

problems identified in Merton's model were not deemed by Burrell and Morgan as having been sufficiently addressed. Burrell and Morgan didn't disagree with Morton's functional analysis.

Indeed, they said that "Merton's critique paved the way for an approach to functional analysis which, in contrast to traditional functionalism, sees the nature of social order as problematic, allows analysis to take place from a variety of perspectives and gives full recognition to take place from a variety of perspectives and gives full recognition to the process of social change." (p. 94) They argued for a more segmented pedagogy precisely because traditional narrow functionalism was still overwhelming any broader discussion of functional analysis. Because of this, some of Merton's propositions can be mapped against the non-functionalism paradigms of Burrell and Morgan without contradicting either.

Subjective Dispositions

One area where Merton broadened functionalism was in addressing "subjective dispositions" as items subject to functional analysis. (p. 47-53) Merton argued against the merging of a subjective category of motives into the objective category of functions. Motives have consequences in terms of attitudes, beliefs, and behavior that can be measured; even if with difficulty. The functional analyst then, argued Merton, must decide whether to treat observed motives (however measured) as data to be understood, or as part of the problem of functional analysis to be solved. If the latter, then fulfilling motivations becomes a function, and that function must be accounted for in functional analysis.

Nagel (1956) argued against including motives in functional analysis. (p. 82) He argued that functional analysis involved deriving function from the changes of states of variables in the social system. If a social act consistently shifts a social system from "X' to "Y," then such a shift is identified with the function of the social act. His argument seems to expect that social

systems and functions exhibit a certain level of determinism; that state variables be observed to change according to rules or laws. Because motives aren't subject to state change rules, he argues for their exclusion from functional analysis. Not arguing against the study of motives, his critique of Merton is largely about where to place the line between paradigms that Burrell and Morgan resolve in their distinction between functionalism and interpretationism.

Including motives in functional analysis accomplishes that shifting of the perspective to the left in Burrell and Morgan's framework. If observed motives are data, then the shift remains in the functionalism paradigm, simply becoming more subjective. Symbolic interactionism may be a response to such a shift. If motives need to be explained by functional analysis, the shift crosses into Burrell and Morgan's interpretation paradigm as subjective issues complete on a more even footing with objectivist issues. Ethnography or phenomenology might be a natural methodological shift under such circumstances.

Objective Consequences

Merton also challenged the view that the role of social functions needed necessarily to be functional. (p. 53-56) By disposing of the postulate that all functions were socially positive, he expanded the range of functionality being analyzed to include dysfunction. Because he had already shifted motives into the realm of functional analysis, it would have been circular to define an *intended* outcome as a *positive* outcome. He therefore defined functions that increased the system's ability to adapt or adjust as functional, and those that decreased the system's ability to adapt or adjust as dysfunctional. This effectively removed any normative bias from his functional analysis. Having done so, he also had to acknowledge that a social function could actually be irrelevant to adaptation or adjustment, opening up a third *nonfunctional* category of

analysis. Having removed intention from the definition of function, he put it back into the analysis by defining intended functions as *manifest*, and unintended function as *latent*.

Analyzing these consequences under functional analysis carries two implications in the Burrell and Morgan framework. First, if function is descriptive and not normative, then the balance and variability between function and dysfunction is itself to be expected as normal, and change becomes inevitable as different functional variants impact adaptability of the social system differently. This shifts functional analysis up the Burrell and Morgan framework toward levels of greater change. Whether the shift crosses the paradigm boundary to Burrell and Morgan's radical structuralist paradigm depends on the level of functional change encountered. In previous work, Merton had already identified the role that variable dysfunction played in driving change and innovation in a system. Some of that innovation would inevitably drive enough change to cross the paradigmatic boundary.

Second, as different change models explore and include more subjective factors such as motives, functional consequences labeled as latent become manifest as the motivations added to the mix make the previously unintended consequences become intended consequences. This makes Merton's distinction between manifest and latent functions contextual. The broader the scope of functional analysis, the fewer consequences can be regarded as unintended, and therefore latent. At the extreme left side of the interpretation paradigm, all functions would ultimately be manifest. This is consistent with Burrell and Morgan's identification of solipsism at the extreme left side of their interpretation paradigm. (p. 238) Under such extreme idealism, there are nothing but manifestations of the mind, and so no possibility that anything could be latent.

Dynamics & Change

By showing the inevitability of change in a social system, Merton argued that the functional analysis model needed to reject its previous bias toward functional stability in favor of more dynamic and change-oriented models. (p. 92-94) The construct of dysfunction, particularly latent dysfunction, provides a mechanism for looking a tension in the social settings. If dysfunctionally-driven change can be expect to change the system, how does a social system maintain its integrity over time? Because social systems do indeed persist, Merton argued that there must be contrasting forces at work that keep the social system in some form of equilibrium, at least within certain bounds.

By conjecturing on equilibrium and boundaries, Merton inevitably opens up functional analysis to potentially include all of Burrell and Morgan's paradigms. Anything - objective or subjective - might affect equilibrium, and any amount of change might result from breaks in system continuity brought about by the tensions and stresses in the system. Depending on the constructs included, and variables measured, a functionalist model could end up anywhere in the Burrell and Morgan framework. An additional model is needed to explain the dynamics implied by Merton's expansion of functional analysis, one that is capable of taking into account the range of constructs implied. For that model, the next chapter backs up ten years to Lewin's force fields and quasi-stationary equilibrium.

Chapter 3

Kurt Lewin (1890-1947)

Overview

Kurt Lewin, primarily a psychologist, contributed an epistemology of change in social organizations that revolutionized the study of social groups. Cartwright (1951) described Lewin's contribution as "chang(ing) fundamentally the course of social science in its most critical period of development." (p. vii) Lewin sought to take social science from an *ad hoc* empiricism to full blown methodological science. He worked during the last ten years of his life to explore and define the conceptual foundations of social science, building a model and set of propositions that have stood the test of time, and guided several generations of social scientists.

His conceptualization of change as a field dynamic laid the foundation for the modern organization change models based on complexity theory discussed in the next chapter. The complex field equations from which social structure is said to self-organize around chaotic strange attractors differ only in degree, and not in kind, from Lewin's early social fields.

Social Fields & Phase Spaces

Lewin (1947) began by pointing out that change can only be discussed as a relative term. A single organizational system may go through extensive periods of stability, or it may go through extensive periods of change, or the periods themselves might vary from one another in length and intensity. A common factor, though, is that each of the change or stable states can only be best understood in contrast to the others. (p. 199) Under circumstances of social change, of which our theme of organizational change is one component, the group entities themselves are undergoing constant change even while the situation for the group as a whole is remains stable.

To understand change in organizations, Lewin argued that two issues needed to be distinguished "which (were) generally not sufficiently separated." (p. 199) The first issue deals with any actual change conditions observed. The second issue concerns any resistance to such change. These two issues define a force and counter-force to change. A stable organization is one in which these forces are balanced enough to produce stability. Stability doesn't offer evidence of any lack of change requirements. At any given time, and organization can be under only moderate change pressure, or extreme change pressure. If the resistance forces balance that pressure, the organization will remain stable. Therefore, stability offers no evidence for or against the presence of any need for change.

Lewin defined the development of a model for understanding these opposing forces as the "practical task of social management." (p. 200) To provide a practical tool, he defined the *social field* as the totality of coexisting entities and relationships within which an internal structure and external environment can be discussed. (p. 200) The breadth of the field being discussed will vary with the context of analysis. The relative position of an entity in the field determines its ecological setting, and potential for movement within the field. The actual periods of stability and change across the field will depend upon the interaction of forces among the entities in the field. This concept is used today to defining organizational strategy in modern organizations looking to respond to a collection of modern problems and opportunities. (Iansiti & Levien, 2004)

Recognizing the difficulties inherent in attempting to understand or predict resultant forces across the social field, Lewin proposed a subset abstraction for analysis, the *phase space*. The phase space differs from the social field in the number of entities and forces being analyzed. It might only attempt to represent a few of the properties or variables related to an analysis

questions. These properties are tracked through the phase space over time. As abstracted constructs, phase spaces need to be tested for reliability and validity in use.

An example of such a phase space is presented in Figure 2. This example looks at a single change problem within a broader social field. The nature and scale of the social field are not relevant to understanding the representation of a phase space, but would be essential to drawing any conclusions from the data presented. Out of context, the phase space tells very little about the actual circumstances being described. Recall that Lewin asserted that the absence of change, or stability, offers no evidence regarding the magnitude of the change forces involved. The phase space shows resultant forces only. The magnitude or complexity of the forces giving rise to the resultant forces are not represented.

Figure 2 – Quality Culture Penetration (Lewin Phase Space)

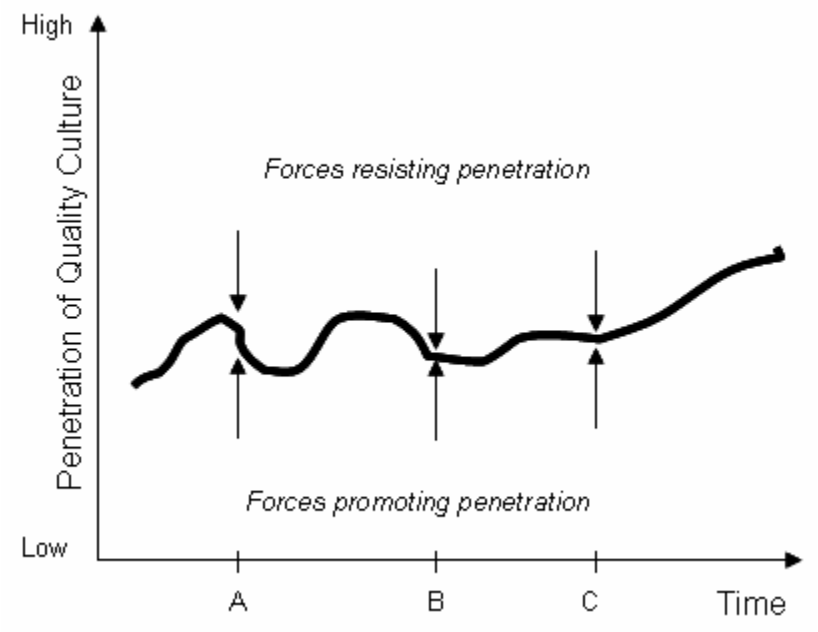

Figure 2 illustrates the tracking of the penetration of a quality culture into the social field. As time passes, the level of penetration increases or decreases in response to the net effect of forces that both promote and resist that penetration. Again, the details of the social field model underlying the abstraction of the phase space are not present. The complexity of what is meant by *penetration of quality culture* is hidden from view, and has been operationalized in the phase space. Likewise, the force arrows in the phase space represent resultant forces. The actual number and complexity of forces included are not described.

Within these limitations, a great deal of insight can be gained through the definition and use of a phase space. Inspecting the penetration curve as it passed through the phase space, one sees that the overall penetration trend is increasing, particularly if focus is placed on the more recent half of the illustrated time period. There was a significant setback at time "A" from which the curve recovered. There was a decline leading up to time "B" that was somehow offset at that time. Penetration continued to decline slightly after time "B," but the local negative trend was broken. Something happened at time "C" that has resulted in a continuing increase in penetration that has exceeded all other local maximums at earlier times.

Also important, according to Lewin, are the observations that can *not* be made from the example phase space. The track through the phase space is in response to the resultant combination of the promoting and resisting forces, each of which are already resultant forces. The collapse of penetration at time "A" might have been because support collapsed, resistance intensified, or a combination of the two. The phase space offers no data to draw any conclusions among these alternatives. Likewise, the apparent permanent rise after time "C" might indicate strengthened resolve among the supporters, abandonment of resistance, or some of both.

Quasi-Stationary Equilibrium

As a practical matter, an organization can be defined as a social field, and described by a collection of important and representative phase spaces. The phase spaces chosen to represent any particular social field will depend upon the context in which the social field needs to be understood or interpreted. Each phase space will measure only a portion of the social field, a portion that can be described as a cross-section social state. The social state represents those aspects of the social field that are effectively held constant when interpreting a phase space. Changes taking place within the social state that are not included in the measurement of the phase space are presumed to immaterial, or at least balance out, with respect to the phase space.

As a social entity, the social state that is out of view from the phase space can be presumed to be undergoing constant change and flux. Much like a river changes as water flows through it without loosing its essential characteristics as a river, and organization or social group will experience constant change in actual membership, involvement of those members, and commitment for and against group norms without loosing its essential character as a group. Accepting this constant state of flex, Lewin recognized that a process described as stable by a phase space could only truly be described as quasi-stationary. The phase space can also only be said to describe an equilibrium between proponent and resisting forces. The forces in equilibrium can be of any magnitude, and the social state can be experiencing extreme change outside of the variables represented in the phase space. These dynamics result in an inability to claim that any particular social field is every stable. At best, and fortunately sufficiently for the use of his tools, Lewin described such conditions as being in quasi-stationary equilibrium. (p. 202)

Returning to his notion that to understand change one must also understand stability, Lewin asserted that to define the circumstances under which an organization could be changed, one must also understand the process under which the organization achieves and maintains its present pre-change levels. Such an understanding requires an analysis of the individual forces that contribute to the resultant forces, the balance of which creates the system equilibrium of the current state.

Resultant Forces & Gradients

The *position* of a quasi-stationary process is determined by the balance of the resultant forces for and against that position. The *stability* of the process is determined by the relative magnitude of the forces involved. If the equilibrium of the process represents the balancing of weak forces, it will be easier for the process to move gradually in response to expected fluctuations in the forces involved. If the equilibrium is the result of balancing intensely strong forces, little fluctuation will be expected in the process as a result of small local fluctuations in force strength. Viewed holistically, a quasi-stationary process will shifts its equilibrium slightly in response to small fluctuations in the underlying forces involved. The range of shift will be inversely proportional to the relative strengths of the forces involved. Weak forces will resolve to equilibrium states that can wander considerably, while strong forces will resolve to equilibrium states that are highly stable.

In principle, this would result in social processes that wander wildly in their phase spaces when forces for or against change are very weak. Lewin pointed out a dilemma in practice; specifically, that social states are not observed empirically to wander wildly, even when change forces are small. To resolve the dilemma, he added the notion of force *gradients* to his model. Weak forces near the process equilibrium will grow stronger as the process shifts.

For example, organizational resistance to increasing workloads might be weak when the increases are small, but grow increasingly strong as increases grow larger. Most social entities could be expected to offer much greater resistance to a 50% increase in workload, compared to the lower resistance expected against a 5% increase. The resistance force can be described as occurring along a gradient. The steepness of the gradient is a measure of how quickly resolve strengthens when the process shifts against the force.

Lewin's use of the gradient for forces in equilibrium sets limits on the movement of a quasi-stationary process, and explains why social processes appear more or less stable even when local forces for and against change are weak. The quasi-stationary process is now subject to two mediating variables: 1) the absolute strength of the resultant forces involved, and 2) the slope of the gradient associated with those forces. With these two factors interacting, the equilibrium of the process becomes better described by a *force field*, rather than simply a resultant force vector.

Force Fields & Tension

Viewed as a field theory, the quasi-stationary process will be seen to be fluctuating around some average level, with the fluctuations due to variations in the resultant promoting and resisting forces in the phase space. The amount of fluctuation will be a function of the magnitude of changes in force strength and gradient slope. Equilibrium is achieved when the amplitude of the resultant forces are balanced. If the process were shifted in either direction from its equilibrium point, the resultant forces would be imbalanced, and the stronger force would be pointing back to the original equilibrium point. Because of the force gradients, the farther the process were shifted, the stronger would be the forces pointing back to the original

state. In effect, the forces for and against change form a force field that results in the quasi-stationary equilibrium acting as a system attractor.

Lewin points out that the impact of this central attraction might only be a local effect. (p. 206) If so, the attraction might be said to have a range beyond which the resultant forces might point away from the initial state. This would result in certain process changes and shifts becoming inevitable once certain initial movements were initiated. If a resultant force in the field includes a particularly strong component force with a particularly short range, a small system change could shift a process completely out of the local attractor on which it was initially stabilized, enabling significant process change with potentially only moderate system movement.

Because the ability to shift a process is a function of the force gradients involved in the equilibrium of forces, such a change will be easier to accomplish if the forces are weaker. Lewin referred to this a reducing group *tension*. (In physics, an entity balancing two strong forces is said to be under greater tension than an entity balancing weaker forces, even if both entities are in equilibrium.) Lewin pointed out the implications of this for implementing social change. (p. 204) While many organizations attempt to implement change by strengthening the forces promoting change, tension is reduced if more effort is put into reducing the resistant forces. The net affect is that the system balance is shifted toward the promoting forces, enabling movement of the process in the desired direction. Under less tension, the local attractor will be weaker, and the changed process is more likely to move beyond the range of the original system attractor to establish a new local equilibrium at a point closer to the desired capability.

Indeed, such a model also implies that some changes could be approached by actually weakening the forces promoting change. Temporarily, the forces of resistance will shift the process away from the targeted change, but with the combination of reduced system tension and

a further stretched resistance gradient, a subsequent attempt at moving in the desired direction has a much greater chance of being successful. The success of an organizational change is ultimately dependent upon establishing a new process attractor at some desired state. If the desired state is outside the range of the original attractor, the new state will be stable. If the desired state is within the range of the original attractor, the desired state will only be stable if the forces are altered sufficiently to break up the original equilibrium state and reestablish it at the new process space.

This makes the range of the original process attractor of paramount interest to the change agent. "It is obvious that for most problems of management the width of the range in which the process has the character of a stationary equilibrium is of prime importance. This is equally fundamental for the prevention of major managerial catastrophes and for bringing about a desired permanent change." (p. 206) While the change agent is typically described as trying to move a system from its equilibrium point, the risk agent is often concerned with the opposite; assuring that the system is stable enough so that it can not suddenly jump to some new, potentially catastrophic, equilibrium point beyond management's control. This concern carries into the next chapter on change models because the planning issues of incremental versus radical change are often grounded in this issue of force field strength and the locality of process attractors.

Chapter 4

Organizational Change Models

Overview

The epistemological model offered by Burrell and Morgan provides a framework for discussing actual organizational change models in practice. Because the focus is change, then by definition, the discussion entails moving from Burrell and Morgan's lower functionalism-interpretation paradigms up to their radical humanist-structuralist paradigms. The two variables still available for analysis here are: a) where a change model falls on the objective-subjective continuum (i.e. left-right), and b) at what *rate* is organizational change attempted.

If the focus of discussion is limited to Merton's manifest functions, then the starting point for any change model will always be Burrell and Morgan's functionalism paradigm. If latent functions are also included, the starting point for change is more smoothed across the bottom tier of their model. A change effort focused exclusively on latent functions, such as a pure organization development effort, might be said to be starting exclusively in Burrell and Morgan's interpretation paradigm, although it seems more difficult to speak of organizational change without impact to manifest functions.

The starting and target positions within the framework, the level of objective versus subjective reality expected, the mix of manifest and latent functions, and the desired rate of change provide the context for analysis of a change model. Within the model, Lewin's phase space will support a discussion of opposing resultant forces and attractors, where the previous context provides for a framework for discussing relevant forces that are thought to be contributing to the resultant field.

Objective Models: Planned Change

Until relatively recently in corporate history, many change models in practice have concentrated on the structural and functional aspects of organizational change. Such models are typically described in the literature as the implementation of *planned change*. (Cummings & Huse, 1989, p. 47) Planned change can occur anywhere in the Burrell and Morgan framework, as some examples can illustrate.

One representative example of such a change model is Beckhard and Harris's (1987) *Organizational Transitions* model that concentrates on defining gaps between present and future states and then planning and executing work to close the gaps. Such change models begin in Burrell and Morgan's functionalist quadrant, and then tend to climb up the right side of their framework. Structural change causes the organization to cross up into their radical structuralist paradigm, with the level of radicalism dependent upon the scope of change targeted.

The role played by individuals in these change models is often limited to the definition of vision, clarification of mission, and the management of interactions or resistance among functions involved in the change. These models don't seem to focus on the intentions, perceptions, or beliefs of the stakeholders of change, and so don't cross into Burrell and Morgan's interpretive quadrant. Undoubtedly, the management of resistance involves understanding and working with the motivations and perceptions of individuals in the organization, but such factors may only be implicit in the change models themselves.

As such concerns are made more explicit, models might map toward the left half of Burrell and Morgan's functionalist quadrant. Change models that map to the far extreme of functionalism, or that cross into Burrell and Morgan's interpretive quadrant, will tend to more explicitly include individual cognitions and beliefs among the factors managed as part of change.

Kotter's Eight-Stage Change Process

An example of a change model that shifts heavily into Burrell and Morgan's interpretive quadrant is Kotter's (1996) *Eight-Stage Change Model* (Table 2) that emphasizes organizational development issues as a key part of change. While Kotter's model is typically used in very specific change initiatives, its discussion focus tends to look at organizational concerns and culture. The change scope anchors the change model in functionalism, but the active focus tends to shift toward people issues represented in the interactivist paradigm.

Table 2 – Kotter's (1996) Eight-Stage Change Process

1. Establishing a sense of urgency.
2. Creating the guiding coalition.
3. Developing a vision and strategy.
4. Communicating the change vision.
5. Empowering broad-based action.
6. Generating short-term wins.
7. Consolidating gains and producing more change.
8. Anchoring new approaches in the culture.

Many of Kotter's stages make more sense to the practitioner when placed against Lewin's change model involving unfreezing, moving, and refreezing. Creating urgency as a starting point, followed by building the coalition and developing vision, are all strategies that reduce resistance forces. This reduction of Lewin's tension allows the equilibrium desired in the change effort to shift in the desired direction through the strategy, empowerment, and short-term win stages before the consolidation and anchoring stages reestablish Lewin's quasi-stationary equilibrium.

Planning models such as Kotter's can be used to implement both large and small change; although the nature of trying to achieve short-term wins along the way implies that the expected change types would be fairly large. Small changes often don't require changes to vision or mission that are explicit in the stages, and empowering broad-based action doesn't seem necessary for narrow or small changes. This means that change models like these would typically be expected to aim fairly far up the Burrell and Morgan framework, making it a radical structuralist or radical humanist model depending upon the interpersonal scale of the desired change efforts.

Hammer's Reengineering

Another change model that maps into Burrell and Morgan's upper tier quadrants is reengineering. (Hammer, 1990) Hammer pointed out that popular business change initiatives based on automation (which would fall clearly in the functionalist quadrant) were wasting resources because many of the processes being improved were actually the *wrong* processes. He offered an example of Ford needed 400 accounts payable clerks when rival Mazda only needed five. (p. 105) Should one introduce extensive automation to empower the 400, or "obliterate" the process and enable the work to be done by five individuals? Such change clearly places reengineering outside of the functionalist paradigm, and into the radical structuralist quadrant.

In an interesting linguistic twist, Hammer and Champy (1993) used the term *manifesto* to describe their philosophy on reengineering, implying a comparison to Marx's manifesto describing the need for revolutionary or radical political change. Indeed, Burrell and Morgan also used Marx as an archetype model in describing their radical structuralist paradigm.

TQM & Six Sigma

Another set of change models that focus mostly on objective criteria are Total Quality Management (TQM) and the Six Sigma quality movement. These disciplines offer change models that are highly functionalist in perspective (e.g. definition and improvement of processes and procedures). Although subjectivity can be an issue in quality analysis, few TQM or Six Sigma projects focus attention directly on elements of Burrell and Morgan's interpretive paradigm. Both disciplines emphasize objective factors in driving change (e.g. metrics, experiments, tools). The plan-do-check-act cycle associated with TQM targets 3-sigma improvements, leaving the TQM model in the functionalist quadrant of Burrell and Morgan, while Six Sigma targets 6-sigma improvements, placing it in the radical structuralist quadrant.

Quality-based change initiatives tend to emphasize fact-based or data-centered decision making band design. In this sense, TQM and Six Sigma approaches rely heavily on the data helping to diminish or overcome Lewin's resistance forces. If the right analysis is done, and data collected, this might definitely be the case. But any actual connection to reducing individual resistance to change becomes a factor of the validity of the analysis models used. It is foreseeable that otherwise well-run improvement or change projects could fail to achieve their objectives because of organizational and cultural factors outside of the view of the heavily functionalist approaches of these disciplines.

In the past several years, the Six Sigma movement has also started to split into two divergent (complementary, not competitive) camps. The traditional Six Sigma approach used for improvement (based on a Define-Measure-Analyze-Improve-Control approach) has seen a spin-off approach know as *Design for Six Sigma* (DFSS). DFSS takes the Six Sigma DMAIC notions and adds a shift toward radical redesigned change. In this thinking, incrementally implementing

change that takes a process from 1-sigma, to 2-sigma, to 3-sigma, and so on, will inevitably run out of steam between 4.5-sigma and 5-sigma.

There are simply too many diminishing returns in trying to incrementally get from 5-sigma to 6-sigma. There seems to be a 5-sigma "wall" that can't be surmounted. The alternative, according to DFSS proponents, is to discard the old process and simply design a new one at 6-sigma; to simply design a process on the other side of the wall. The DFSS approach, then, clearly falls in the radical structuralist quadrant, emphasizing radical and objective change. DFSS becomes a methodological or engineering approach to reengineering.

Subjective Models: Participatory Change

A contrast to the functionalist planned change models, whatever their degree of conservatism or radicalism, would be the more participative or human factors change models available in the literature. These models also implement functional change, but their emphasis is often on the feelings and perceptions of the stakeholders, and so anchors these approaches on the left side of Burrell and Morgan's framework.

Participatory Action Research

Change models that can be described as action research have their roots in symbolic interactionism, that the symbolism attached to gestures and actions by actors in the social context influence subsequent actions by those actors. Symbolic interaction goes beyond the prompt-to-response mechanisms studied in basic behaviorism to posit an intervening set of interpretative variables that account for the diversity of actions and reactions apparent in social exchange.

If the mediating interpretations are as important as suggested, then social affairs will best be understood through detailed analysis of the actions and responses of individuals looking for the meanings attributed to each action. Participatory action research approaches to change will

emphasize and understanding of, and potentially influence over, any hidden mediating variables that might influence a change initiative. (Kemmis & McTaggart, 2000) As mediating variables, they are harder to measure and influence, and so action research change approaches tend to focus on taking advantage of team and group dynamics in the workplace. Change plans often emphasize interactive activities and group sessions, through which important changes and requirements are likely to emerge.

Action Theory & Training

An example of such a change model is the Action Theory & Training (AT&T) model (Table 3) described by Bruce and Wyman (1998). (Sidebar: I chose this model because I'm using it in my KAM 7 case study.) The AT&T model emphasizes the interpersonal and motivation factors that are often omitted or implicit in the more functionalist models above.

Table 3 – Two-Phase AT&R Cycle (Bruce & Wyman, 1998)

Phase	AT&R Stage
Research	1. Orientation
	2. Contract setting
	3. Reconnaissance
	4. Problem & opportunity identification
	5. Aspirations
	6. Action options
Action	7. Experimentation
	8. Experiment results analysis
	9. Program design
	10. Implementation
	11. Program evaluation
	12. Re-cycle

Bruce and Wyman describe AT&R as being based on two different perspectives, both of which are highly relevant to issues raised by Lewin. First, AT&R emphasizes the self-reeducation of the stakeholders in the study. Second, AT&R emphasizes a consultative approach to helping people implement their own changes rather than simply directing change at or over those stakeholders. Both of these perspectives directly work to reduce resistance forces directly.

The central themes of such an approach included helping members of the organization develop new knowledge of their issues, problems, and opportunities along with a new set of internalized values to focus attention on the changing needs of their customers. The combination of increased problem awareness and refocused customer values allows stakeholders to identify new ways to perform their processes and procedures. "Self-reeducation is not learning just any change. It is learning to accept new values according to the new knowledge gained." (p. 16-17)

Viewed from a distance, the actual changes implemented in an action research approach can seem secondary to some of the human dynamics being explored. This anchors action research approaches to the left side of Burrell and Morgan's framework, as an interpretive model. The actual level of change can vary, but more conservative approaches are often taken simply because many action research projects begin with a change scope in mind. A more radical approach would entail opening up the group to open ended discussions that don't constrain the amount or types of change that are possible.

Future Search

An example of such unconstrained change is the *future search*. A future search conference explores an open-ended scope to identify major changes that can be implemented by a stakeholder group or organization in response to changes in its mission, environment, or capabilities. (Weisbord, 1993; Weisbord & Janoff, 1995) The effort is intensive, and therefore

only carried out if radical change is desired and expected. This anchors future search as a change model in Burrell and Morgan's radical humanist quadrant. If the effort realigns organizations or stakeholders, it shifts toward the top left of their model. If the emphasis is on new systems or structures, the change shifts toward the top center, picking up objective characteristics of the radical structuralist paradigm.

With heavy stakeholder involvement in all stages of planning and execution, the future search would be expected to break down resistance forces, while also motivating stakeholders to put their commitment behind the forces promoting change. The combination can result in some dramatic changes. A change agent sensitive to Lewin's forces would also likely be able to discern, within the early dialogues, the point at which new resistance could be expected to take hold. If well planned, major change could be accomplished without attempting to go too far; thus avoiding some of the backlash often associated after-the-fact with major change.

Hybrid Perspectives: "New Science"

Most popular organizational change models or proposals seem to emphasize a break from Burrell and Morgan's dominant functionalist paradigm, and an understanding of the direction that any particular change model would move an organization within the framework can inform and prepare change agents for the issues that might regularly be associated with a shift toward any other particular position in the framework. The next section closes with the most extreme version of this perspective, one that identifies emergence and attraction as key drivers of organizational change across all four of Burrell and Morgan's paradigms.

Chapter 5

”New Science” Change Models

Overview

A third category of change models that surrounds or overlays the objective and subjective models just described includes those that explore and use complexity and chaos to understand organizational change. These models are distinguished by their focus on emergence and attractors as key features to be dealt within in change; directly tying these models to the quasi-stationary process attractors of Lewin. Self-organization and self-referential features of organizations; along with the change disciplines that support their interaction, combine to form the attractors that bound the organization to its own self-identify. Vision and mission serve as embodiments of that self-image; and attention to the issues of complexity and chaos become organizing features that allow for change and growth.

Wheatley (1999) challenges organizational change agents to look at organizations in whole new ways. "To be responsible inventors and discoverers, we need the courage to let go of the old world, to relinquish most of what we have cherished, to abandon our interpretations about what works and doesn't work." (p. 7) Wheatley offers the "new sciences" of chaos and complexity as tools for understanding organizations. Wheatley and Kellner-Rogers (1996) emphasize the ways in which adopting these new tools actually simplifies the world in which we operate. Mimicking Lewin’s discussion of the need to reduce tension in the force field before attempting change, Wheatley describes the energy required to change organizations as lower when the essence of organization is the combination of relationships of individuals in those organizations. It actually takes more energy *not* to be in organizations. The tools needed begin

with abandoning much of what has traditionally been considered the center of analysis; deconstruction.

Wheatley asks that we abandon the traditional notion of understanding parts in order to understand wholes. "We manage by separating things into parts, we believe that influence occurs as a direct result of force exerted from one person to another, we engage in complex planning for a world we keep expecting to be predictable, and we search continually for better methods of objectively measuring and perceiving the world." (p. 7) Much is known about the theory and usefulness of complexity and chaos, of self-organizing principles in dynamic open systems. Wheatley offers a set of models for understanding and changing organizations from these new perspectives. The most important distinction is that, rather than concentrating on the discrete parts that make up systems, we should be focusing our attention on whole systems and on the relationships that exist within those systems.

Organizations as Open Systems

Organizations exist as systems independent of the parts that make them up. Just as adult humans contain virtually none of the cells of which they were comprised as children; organizations continue to exist despite the fact that they may contain none of the individuals or resources of which they were once comprised. Like people, organizations maintain their continuing identify through the on-going relationships in which they participate within and across their environment. This was the essence of Lewin's discussion of *quasi*-stationary processes, the fact that they remain stable over time if the in-and-out changes of people and energy are ignored in the macro view.

Wheatley (1999) describes autopoiesis and its effect on how we view the world of individuals and organizations. Under the idea of autopoiesis, individuals and organizations

continually create their selves through engagement with their environment through relationships and interactions. (p. 20) Changes in the environment perturb or disrupt those relationships, introducing disorder that dissipates the structure of the organization and results in new self-organized order of a new form. "This disintegration does not signal the death of the system. If a living system can maintain its identify, it can self-organize to a higher level of complexity, a new form of itself that can deal better with the present." (p. 21) Disorder becomes a source of increased order; a lesson that challenges the foundation of much organizational planning and control that attempts to limit disorder.

Chaotic Systems

Chaotic systems are ones where it becomes impossible to predict their behavior because the dynamics of the system cause it to never behave exactly the same way twice; even under circumstances that look largely the same. Such systems, though, do exhibit an inherent order. They are typically bound by an attractor that limits the possible variation from some norm. If such variation is small enough in the short-term, it becomes reasonable to think of the system as linear and controllable. Under these scenarios, traditional management practices based on linear thinking will appear reasonable; and, indeed, will often be effective. Lewin described such systems as exhibiting a strong enough force gradient to appear both linear and stable over time because too much energy was required to alter or move the system.

As we see organizations of increasing complexity around us, we are now challenged to accept the inherent chaotic-ness of those systems. This isn't because they have shifted in some way toward being chaotic. They have always actually been chaotic systems. Rather, the increased variability and scale of our global organizational systems are no longer bounded by attractors that allow us to further pretend that they are linear. The level of change in everyday

organizational systems has become much stronger, enabling previously linear-looking systems to overcome Lewin's gradient to perturb beyond previously bound levels. The attractor may not move, but the energy of the system is now sufficient to see systems leaving their boundaries increasingly. Under such conditions of dramatic flux, the system is as likely to dissipate into chaos or settle into a new attractor as it might be to return to its initial state.

Emphasis in managing the change shifts from linear controls to dynamic influences. Leadership discussion moves from a controlling role played by certain stakeholders to an opportunistic behavior played by anyone for whom the context is right for exerting influence. Wheatley summarizes the idea:

> If people are machines, seeking to control us makes sense. But if we live with the same forces intrinsic to all other life, then seeking to impose control through rigid structures is suicide. If we believe there is no order to human activity except that imposed by a leader, that there is no self-regulation except that dictated by policies, if we believe that responsible leaders must have their hands into everything, controlling every decision, person, and moment, then we cannot hope for anything except what we already have — a treadmill of frantic efforts that end up destroying our individual and collective vitality. (p. 25)

Since the scientific revolution, acquisition of knowledge has been based on reduction of systems into their component parts; with knowledge gained of the components and aggregated in order to understand the original whole. Clancy (1989) found the "organization as machine" metaphor to be one of the six most common views of organizations in a review of literature from 1770 to the mid-1900s. The reengineering movement of the 1990's described above, largely led by Hammer's writings, emphasized the machine metaphor, and the reductionist approach of breaking down the components and reengineering them into a new whole. Wheatley observes that "until recently we really believed that we could study the parts, no matter how many of them there were, to arrive at knowledge of the whole." (p. 29)

As chaotic systems, organizations will wander and experiment with differing paths, but they will remain within their hidden boundary — their strange attractor — in order to retain their self-identify. This boundary isn't imposed from outside, it is present and real within the dynamics of the system. Viewing a systems' strange attractor makes the hidden order discernable. It consists of information feeding back on itself in iterative processes of unfolding. The behavior of the system is unpredictable within its boundaries because these feedback loops are nonlinear; amplifying and growing through iterations until the system explodes and takes off in a new direction from the one in which it was heading. The system self-organizes around the new environment in which it finds itself; never leaving the broad boundaries of its attractor. Wheatley observes that "even infinitesimal differences can be far from inconsequential." (p. 121)

Chaotic Characteristics

The characteristics of organizations that qualify them as subject to analysis as chaotic systems are highlighted by Thietart and Forgues (1995). They see organizations as potentially chaotic simply because of the number of interacting variables involved in their operation. Changes to these variables states offer the organization constant opportunities to bifurcate; to select choices that determine its future. The permutations of variables and choices makes prediction of an organization's future impossible; they behave in ways that can not be predicted. Though unpredictable, the fact that everyone recognizes a range of organizations as being typical indicates that organizations tend to gravitate toward one of only moderately many possible states and types. The presence of some hidden strange attractor can be seen to operate in this gravitation process. During operations, and inevitable state transitions, Thietart and Forgues note, organizations typically present themselves to the world in fractal forms. However, similar

actions taken in different self-similar parts of an organization rarely end in the same result or outcome.

Thietart and Forgues' position is that chaos theory must be used to describe organizations precisely because they virtually always exhibit chaotic behavior. There may be other explanations for such behaviors, but organizational theorists would be foolish to discount such an obvious tool. Having made such an assertion though, the challenge is in making such a tool useful. Knowing, for example, that organizations are fractal is only useful if it leads to new knowledge or insight.

Fractals & Leadership

In chaos theory, strange attractors exhibit fractal geometry. While the strange attractor describes the system, fractals describe the strange attractor. Fractals describe any object or form created from repeating patterns that are evident at any chosen level of detail. The root of fractal geometry is the study of fractional dimensions (e.g. an infinite length line drawn in a finite space is more than a one-dimensional line, and less than a two-dimensional plane).

For example, what is the length of the coastline of Great Britain? The answer varies based on the length of the measuring device used. An automobile wandering the coastal highways while keeping the coastline in sight will arrive at a different answer than the hiker who walks keeping the coastline within a few paces. The hiker determines that the coastline is quite a bit longer than the driver. A dog walking along the edge of the water would measure a longer distance still. To the ant, the coastline is many orders-of-magnitude longer than for the driver. The more granular the measuring device, the longer the result achieved. At the microscopic level, the coastline approaches an infinite length. It becomes the infinite line in finite space: a fractal.

The idea of self-similarity in fractals comes from the fact that the driver, hiker, dog, and ant would observe very similar geometry. Series of relatively straight stretches would be punctuated by rough edged dips and curves, often folding back on themselves. This geometry would remain consistent whether the point of view was the driver (a very large scale view) or the ant (a very small scale view).

Self-similarity in fractals raises questions about what can and can't be objectively measured. Wheatley observes that "fractals suggest the futility of searching for ever finer measures that concentrate on separate parts of the system." (p. 125) the reductionist search is both never-ending, and unsatisfying. Instead, organizational agents must learn to recognize fractal occurrences within the organization; recognizing them as indicative of the presence of a strange attractor within which the organization is likely to be bound. Attractors to positive features can be encouraged by strengthening the dimensions of self-similarity. Negative attractors — those that appear to bound the system in Merton's dysfunctional characteristics — can be weakened by altering some of the levels of self-similarity.

"Organizations that display a strong commitment to their values make good use of (the) fractal creation process." (p. 129) Rather than depending upon strict compliance to standards and rule-following, the organization holds all members accountable to only a few basic principles. Beyond those basic principles, everyone is free to operate as they choose. Energy is not wasted trying to steer tactical decisions and activities. Rather, the organization is encouraged to self-organize around those few basic principles. Lewin's force gradients can be expected to keep the system from wandering too far from the relevant attractors. The organization will be successful and thrive if those attractors are the *right* one's. This gives great power to the simple governing principles embodied in an organization's vision and mission.

With the types of disorder and disequilibrium experienced in many modern organizations today, it can be difficult to trust that a few simple guiding principles are sufficient for an organization to reinvent itself and self-organize. Organizations require leadership that understands and accepts that policies and procedures, particularly during any crisis where management traditionally increases their use, don't achieve the types of stabilizing results that are desired. It is arguable whether or not they ever did; but they clearly do not today. Chaos theory shows us, observes Wheatley, that "seemingly chaotic processes work with simple formulas to create astonishing complexity and capacity." (p. 131)

Leadership of change becomes the process of identifying the basic principles and seeing to it that they are communicated and understood across the organization. When seeking a strange attractor for an organization, Wheatley suggests that very few things will serve as guiding principles that can hold an organization with some limited boundaries during its grown and explosive lifetime. She suggests values and meaning as the concepts that, although simple, will hold an organization in check as an attractor is expected to do in chaos theory. "Most people come to their organizations with a desire to do something meaningful, to contribute and serve." (p. 132-133) An organizational mission statement that embodies an organization's values and meaning, as opposed to the fluff that many organizations pass off as vision and mission statements, will serve as the attractor around which organizations will self-organize. Even when left uncontrolled, individual behaviors will not vary far from the specification created by such meaning.

Organizations & Emergent Environments

In chemistry, macroscopic objects in our real world can be seen to be combined properties of the interactions among very few simple particle types and forces. In quantum

theory furthermore, these few simple particles and forces are seen as emergent properties of fields of interaction. Whether something is a particle, or simple a wave of potentiality, depends upon what is viewed and observed. The same principles are at work in organizations.

Organizations represent order that has emerged from some set of interactions among organizational components; usually groups of individuals. Marion (1999) emphasizes the importance of emergence in the evolution of order. Evolutionary theories predict that desirable order will eventually emerge from the combination of random change and natural selection; the selection criteria for individuals and organizations being different, but none the less definable. To Marion, such a view is extremely untenable simply because of the number of permutations of changes that are possible in most nontrivial examples. Instead, order is emergent; a free outcome of the operation of complexity theory. Natural selection becomes a second order affect; something to tune what has emerged. The burden of creating order is taken off the back of selective processes dependent upon random exploration. (p. 29-31)

Saunders and Ho (1994) offer catastrophe theory as an alternative for the role given up by natural selection. (p. 144-145) They describe self-organization working continuously, but given new material to work with by the alternating of equilibrium and disequilibrium often associated with versions of natural selection based on Gould's (1983) punctuated equilibria. (p. 259-260)

Still, this leaves the question as to whether organizations should be viewed as collections of individuals into systems, or as relationships among individuals that result in an emergent system? Wheatley, focusing on quantum analogies, answers: Both! This places Wheatley's change models in both the subjective and objective halfs of Burrell and Morgan's framework. "What is critical is the relationship between two or more elements. Systems influence

individuals, and individuals call forth systems. It is the relationships that evoke the present reality." (p. 36) The nature and definition of an organization can only be defined in terms of its interaction with its environment (Burrell and Morgan's interpretive paradigm) and the relationships that are formed among its component members as a result of that interaction (the functionalist paradigm).

Marion draws a similar conclusion when discussing irrationality as a key factor in assuring emergence of complex order in organizations. (p. 150-151) Simply combining individuals into systems could create organization, but not the emergent complexity and dynamics that we actually observe in the organizations around us. That emergent complexity arises precisely because of the inherent irrationality of human behaviors. If behaviors were purely rational, or purely focused on local optimization of the individual, most organizations would look very much the same and could be created by interchanging almost any available individuals. It is the performance of actual humans, behaving illogically at times, that allows a particular order to emerge. The interaction among these ordered yet irrational behaviors allows the complexity and richness of our organizations to further emerge, an example of the way Merton describe dysfunction driving innovation.

Citing Weick's concept of enactment, Wheatley goes on to describes the ways in which the relationships between an organization and its environment is self-determined and emergent. The environment emerges from the organization's interaction with it. "It is co-created through our acts of observation, what we choose to notice and worry about." (p. 37) If there is no objective environment, then our strategies for how we study and understand our environment must shift from the search for the objective reality to the exploration of the subjective

relationships from which the apparent environment emerges. This shifts major change from Burrell and Morgan's radical structuralist quadrant to the radical humanist quadrant.

An impact that can be seen in this loss of objectively defined environments is a deemphasis on planning and control as organizational tools. Mintzberg (1994) seeks "to characterize planning by the nature of its process, not its intended result." (p. 7) In looking at this process, he finds what he believes is an underlying contradiction in planning, namely, that "the assumption underlying strategic planning is that analysis will produce synthesis: decomposition of the process of strategy making into a series of articulated steps, each to be carried out as specified in sequence, will produce integrated strategies." (p. 13) He emphasizes strategic thinking over strategic planning.

Traditional strategic planning literature recognizes strategy in two forms. "Intentions that are fully realized can be called deliberate strategies. Those that are not realized can be called unrealized strategies." (p. 24) His approach parallels Merton's manifest and latent functions. What typically goes unrecognized , argues Mintzberg, "is the third case, which (he calls) emergent strategy, where a realized pattern was not expressly intended." (p. 25) Because emergent opportunities fall outside of the formal planning process, and would violate the published plan, key ideas and opportunities are not only missed, they are actively avoided in the interest of implementing the plan. These missed opportunities, in hindsight, discredit the entire strategic planning process and profession.

Mintzberg encourages a combination of strategies. Management can "pursue what may be called umbrella strategies: the broad outlines are deliberate while the details are allowed to emerge within them. Thus emergent strategies are not necessarily bad and deliberate ones good;

effective strategies mix these characteristics in ways that reflect the conditions at hand, notably the ability to predict as well as the need to react to unexpected events." (p. 25)

Some of the central premises that Mintzberg feels have led to the current negative perception of strategic planning include: that the "management of strategy can be sharply separated from the management of operations, and the strategy formation process itself can be programmed." (p. 23) In an argument currently echoed in the quality literature, strategic planning isn't something that can be done separately from line management, it constitutes the most important part of line management. If so, the role of the separate planner, or planning function, is drawn into question. Mintzberg's "contention is that many of the most important roles played by planners have nothing to do with planning or even plans per se." (p. 361) He offers three "nonplanning roles of planners: as finders of strategies, as analyst, and as catalyst." (p. 361)

This catalytic role is consistent with Wheatley's perception of change as opportunistic and the environment as emergent. She sees the organization's environment as evoked through the interaction and engagement of the organizational members with that environment. (p. 38) This doesn't require or imply that organizations passively allow their environments to emerge. Instead, it provides the identity and intent of the organization a central role in determining the outcomes achieved by the organization. "Without a clear sense of who they are, and what they are trying to accomplish, organizations get tossed and turned by shifts in their environment. No person or organization can be an effective co-creator with its environment without clarity about who it is intending to become." (p. 39)

Under the quantum model, the organization is an emergent property of a web of the many relationships that exist among its members and environment. To nurture and change the

organization, then, requires affecting that web of relationships; disturbing them enough to cause autopoietic reorganization. The system must be free to change itself in order to maintain itself. Lewin's gradients must be weak enough to allow change, but strong enough to maintain quasi-stability. This requires new skills that have gained prominence in the management and organizational literature in the past decade; skills involving communication, leadership, group and team dynamics, and listening. It requires organizational managers to stop trying to change the individuals by changing the organization; and rather, work on changing individuals in order to change the organization. It is the essence of learning organizations; where learning is taken in a much broader sense than simply training.

Relationships as Hidden Fields

As found in quantum physics, organizational change agents attempting such changes will often encounter non-local causality; situations in which affects are seen to be caused by circumstances and agents usually considered too remote from the situation to have a direct impact. Wheatley explains that "when we take a step or make a decision, we are tugging at webs of relationships that are seldom visible but always present." (p. 42) Such relationships constitute forces in the environment that have a direct impact on actions and outcomes.

Physicists use fields to explain the dynamics that lay people view as forces. Gravity is a field that curves spacetime. Two objects will always be drawn to each other as a result of such curvature. We observe the attraction and interpret it in terms of a force acting on the objects, and call it gravity. The field is real; the force a useful description to describe its impact. These concepts are no less useful in describing organizations. The non-local actions that we observe when we try to change an organization are a direct result of the reaction of the field created by the web of relationships found across and throughout the organization. Lewin recognized that

the force gradients of his field, because they are not directly seen, would make an organization look as though it were being pulled to it attractor by an unseen force. A challenge to organizational theorists, as to physicists, is to stop thinking of such a field model as a metaphor and recognize it as the fundamental underlying explanation of organizational reality. It's not "as if" organizational fields exist and affect outcomes, Lewin precisely described that they actually do. They actually exist and must be reckoned with.

Fields & Chaos

In a web of relationships describable as a chaotic field, local action will bear no direct relationship to the location or size of any result action impacts. From a Newtonian perspective, the actions of an individual can seem too small to affect an entire large system. At best, it will be hoped that individual actions will collectively or incrementally add up to a desired organizational impact. Newton's cause and effect world of forces required a great deal of energy to get a still object moving, or a moving object still. Change required forces and effort to overcome inertia.

The quantum view of fields allows for more direct impact. Wheatley observes that "changes in small places also affect the global system, not through incrementalism, but because every small system participates in an unbroken wholeness." (p. 45) One can have difficulty predicting how an individual action may perturb and change the entire system. Recognizing this, organizational agents must learn to be aware of the entire system and stop trying to make change local and incremental.

Self-organization Around Mission

Organizations often attempt such local and incremental change because they desire not to wander too far from their current or target state of quasi-stationary equilibrium. Management

fears a breakdown of order, and concomitant loss of control, if too much disequilibrium is allowed into the organization.

In thermodynamics, equilibrium is the end state of an evolving closed system. A system reaches equilibrium when all of its energy is exhausted and no further change or action is possible. A relatively inert system can temporarily prevent further dissipation and so prolong its overall life. Finally though, because such statis cannot be maintained forever, it's productive capacity has been dissipated as useless entropy. In such a world, organizations undergoing change dissipate some of their energy. As such, organizations prefer stability over change and attempt to maintain momentary statis as long as possible; making changes of only limited and local scope. Wheatley comments that "any form of stasis is preferable to the known future of deterioration." (p. 77)

As organizations have followed the machine paradigm, they have generally held this view that change is bad, or at least should be limited and slow. Wheatley observes that "it is both sad and ironic that we have treated organizations like machines, acting as though they were dead when all this time they've been living, open systems capable of self-renewal." (p. 77) Living systems do not seek equilibrium as their end goal. As open systems, they continuously import energy from, and export entropy to, their environment.

A living open system that isn't changing is dying. As such, an organization's view toward change must itself undergo change as the machine paradigm is let go. The controlling negative feedback loops built into the organization give way to enabling reinforcing positive feedback loops; where small perturbations in the organizational field can be amplified and communicated throughout the organization. As such amplification takes place, information increases and disturbances in the field actually grow. "The system, unable to deal with so much new and

intensifying information, is being asked to change." (p. 79) The focus of analysis must shift from system structure to system dynamics.

Disturbances create disequilibrium in the local stasis. This disequilibrium reaches a threshold where the system reorganizes — self-organizes — around the newly revised field. They break the bounds of Lewin's gradients and reform around new attractors. They make the difficult shift attempted in Six Sigma look effortless. Rather than being seen to deteriorate, such systems are viewed as dissipative structures; structures that give up their current form to reorganize in a new form. Wheatley describes such dissipative structures as "systems possess(ing) the ability to reorganize themselves to deal with new information." (p. 80) They are adaptive and resilient; their structure depending upon the dynamics of the fields in which they are embedded.

Vision & Mission

Wheatley observes that a great deal of attention is being paid in the management literature today to the ideas of vision, mission, and the cultures derived from these constructs. "We see their effects on organizational vitality, even if we can't define why they are such potent forces." (p. 14) She describes the notion that mission and vision serve as fields that occupy the space of an organization and influence behavior. Physics uses field dynamics to explain all of the forces of nature; so it's not unreasonable to use fields to attempt to explain the dynamic forces that drive complex organizational behaviors. Wheatley observes that the concepts of vision, mission, and culture represent qualities that are seen in the behavior of the organization, and yet are doesn't actually exist independent of those behaviors. (p. 54) Such qualities constitute unseen forces that permeate the organization and directly affect its behaviors; fields. We can never see these fields directly, but we can observe their affects continuously.

Once organizational change agents choose to adopt a field-based view of their organizations, different questions and tools emerge. Wheatley asks about what messages permeate the organizational, and how such messages serve as a field that affects behavior. (p. 54) Messages that are consistent and supportive of each other might be seen to strengthen the field; while contradictory or opposing messages might serve to cause the field to interfere with itself, canceling out desired behaviors. The role of change agent might be one of building and sending clear and consistent messages across the field. The strong congruent field influences behavior in a consistent and positive direction. Because the field permeates the organization, the change agent creating such messages can be anywhere and in any position. Leadership of change becomes an ability to positively perturb the field, not an organizational position.

If vision, which Wheatley sees as "organizational clarity about purpose and direction," (p. 55) is to be viewed as a field, then what are the implications for organizations? Traditionally many have viewed visions as destinations, and the act of creating a vision as one of choosing some destination in the future. There exists a belief that defining such a destination helps create a pulling that helps pull the organization toward that future. But as a field, the vision serves as an influence in the forces of the present. It is not a destination, but a "congruency in the air." (Wheatley, p. 55) If that message permeates the entire field of the organization, it will serve as a vital force affecting all individuals in the organization. The visionary message becomes a conceptual control in, not over, the organization. Wheatley asserts that "if we understand ideas a real forces in the organization, as fields, … we have a better image for understanding why concepts control as well as they do." (p. 57)

Self-organizing Behaviors

Under the field-based model, organizational change agents should seek to assure the clarity of the messages in the organization. They must open up the sharing of information and make sure that all stakeholders have access to the vision and mission. "Vision statements move off the walls and into the corridors, seeking out every employee, every recess in the organization." (p. 57) As a result, a powerful field develops, and the organization self-organizes around it.

Information and messages move freely over the fields inherent in the organization. If messages aren't overtly controlled, they will be interpreted freely and differently by different stakeholders in the organization and environment. Instead of filtering and interpreting messages for people, leaders allow multiple and diverse interpretations to emerge from the different perspectives of the widely differing people in the organization. These diverse responses offer the organization a wider range of possible responses to every situation and perturbation. Wheatley observes that "an organization rich with many interpretations develops a wiser sense of what is going on and what needs to be done. Such organizations become more intelligent." (p. 67)

In such organizations, information is actively sought by all stakeholders, "and then it must circulate freely so that many people can interpret it." (p. 83) The organization seeks information that will perturb it. "It is deliberately looking for information that might threaten its stability, knock it off balance, and open it to growth." (p. 83) To the extent that the organization is considered quasi-stable, such stability "comes from a deepening center, a clarity about who it is, what it needs, and what is required to survive in its environment." (p. 83) The system develops self-knowledge, and self-organizes around that knowledge.

Wheatley describes several settings in which she and colleagues actively chose to begin bringing together the whole system "to assess a deeper system's intelligence." (p. 47) She describes a process for creating participative events in which stakeholders in an organization come together in order to create or define change in their own organization, typically interventions describable as participatory action using events that might be described as future searches. The joint participation of so many perspectives created a synergy that strengthens the outputs and buy-in of the process among stakeholders. "The miraculous enters in as the diversity of the group coalesces into a complex but unified vision of what they want to create together." (p. 68) Participants share a strong emotional commitment to the outcomes of such sessions. "Rather than basing agreements on the lowest common denominator, the whole system that is present at the conference has self-organized into a new creation, a unified body that sets new and challenging directions for itself." (p. 105) Although they spend their time largely sitting around talking, they come away exhausted.

These sessions take advantage of the quantum aspects of organizations; that the organizations are comprised of the relationships in which their component members participate. Relationships are primary, with nothing existing independent of those relationships. Wheatley points out that, in physics, "particles are described as a *tendency* to participate in various reactions…. The result is an intriguing network of interactions, a structure of processes and potential relationships." (p. 71)

Individuals in organizations exist as similar sets of potentialities. They should not be though of as players in a role or task; but as participants in the complex web of relations that exist across the organization. To Wheatley, "hierarchy and power are not what is important, what's critical is the availability of places for the exchange of energy." (p. 72) In addition to

roles and tasks, one contributes to the entire organization through the exchange of energy. Such organizations — quantum organizations — focus on relationships and process; "organizations that work[] more effectively in this relational universe." (p. 72)

Organizations that carry a clear sense of identify and purpose in their vision and mission statements become less vulnerable to their environments. It's not that the organizations don't change. Rather, the organizations exhibit a stability over time precisely because the myriad local changes and perturbations are consistent with its self-image and self-knowledge, Lewin's quasi-stationary processes. Wheatley claims that "effective self-organization is supported by two critical elements: a clear sense of identify, and freedom." (p. 87) When people with strong self-knowledge are empowered to make their own decisions, the organization is more orderly even though less controlled. "Self-reference will be at work, but otherwise the system has no predetermined course." (p. 88) A small perturbation or disequilibrium may have no affect, or it may trigger catastrophic and drastic change that leaves few untouched. It was these extremes of positive and negative change that Lewin reported as the key management problems of change. (p. 206) If left alone, the system will self-referentially grow and co-evolve with its environment. "The attempt to manage for stability and to enforce an unnatural equilibrium always leads to far-reaching destruction." (p. 89)

Thomas (1997) goes so far as to claim that the key competency that will allow organizations to thrive in the future is the ability to make a commitment to a shared vision and mission as the context for reformulating the organization as a whole. (p. 336) Vision and mission, then, aren't just static definitions, but the core enablers of organizational change.

Organizational Change

Chaos and complexity theories point toward organizations being stronger and better adapted to their environments when strong internal networks or fields combine with a strong sense of identify and purpose. These factors combine to form a strong system attractor along with positive feedback that allows the system to experiment and self-organize within the boundaries of its attractor. This viewpoint has implications for organizational change.

Wheatley observes that "if a system is in trouble, it can be restored to health by connecting it to more of itself." (p. 145) More relationships in its field equates to a stronger system. The process of a system learning about itself from its own field network results in change. She focuses on three critical areas in driving such change: 1) connecting people to the fundamental identify to the organization, 2) connecting people to new information beyond that which is already available to them, and 3) developing new relationships among people who are not yet in interaction. Driving any of these areas results in organizational change. "As a system inquires into these three domains of identify, information, and relationships, it becomes more self-aware." (p. 146) Processes that support participative problem-solving and self-managed teams promote all three dimensions, and are seen by Wheatley as strong avenues for promoting change; regardless of the desired area or scope of change.

For individuals, change involves a process of self-reference. We change only if the change promotes and supports who we are; and vision and mission help clarify these things and so promote effective change. People and groups explore who they are as they consider change. Wheatley observes that "people need to explore an issue sufficiently to *decide whether new meaning is available and desirable*." (p. 148, emphasis in original) They decide for themselves whether they will drop their initiated resistance forces in the Lewin's force field. Rather than

formal and specific recommendations, a change agent needs to supply a variety of changed meanings that can be discussed and debated by stakeholders. Different players will interpret and respond to those meaning differently. The organization's field will perturb and react to the new meanings. "As we engage in this process of exploring diverse interpretations and learning to observe our patterns, oftentimes we discover a unifying energy that makes the work of change possible." (p. 149) Such an attractor needs to be incorporated into the organizations self-image; its vision and mission. When incorporated, change becomes part of the organization, not something that has to be done to or in it.

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Postscript

Educational Change

This KAM does not include depth or application components because the credits for both were accepted by John Vinton as transfer credit from my masters program at Walden. My transferred depth component includes my thesis on organizational change agents in education (Biehl, 1999), and the transferred application component includes the publication of that thesis (Biehl, 2000) by the American Society for Quality.

When I conducted my earlier research, I was very interested in systems theory, and systems effects in educational change. Much of my systems thinking at the time was informed by Banathy (1991) and Reigeluth and Garfinkle (1994). My research also applied my professional quality management experience to my educational learning.

Looking at *quality*, *customer*, and *suppliers* as constructs that needed to be defined and related in education; I was able to compare and contrast the way these constructs are thought about differently in the educational and business arenas. What I found was that the customer and supplier constructs actually overlapped in education in ways relative unseen in the business community.

I conjectured at the time that as the scale of a system grows, as with education, the overlap across these two constructs should increase. In extremely large scale systems like education, the military, or government; it is not unusual to see customer entities who are also suppliers, and suppliers who are also customers. As the scale shrinks smaller – as with many business settings - the overlaps disappear and customer and supplier groups become distinct. This has important implications when attempting to apply quality management concepts like

customer and *supplier* to large scale public systems. I've used the instruments that I developed in my thesis in many settings since graduating, and they've worked extremely well.

Looking back now at that research now, I can see that I was analyzing a systems model that pitted customer and supplier force fields against each other. The model worked because customers and suppliers tend to focus energy differently when promoting or resisting change. Lewin's admonition that one work first to reduce system tension requires that we are properly able to diagnose where tension is coming from; specifically, how the promoting and resisting forces of customers and suppliers might be interacting. In the near future, I believe I'll adapt a version of my research instruments to include some of Lewin's constructs, and see if customer and suppliers in the same system might actually be drawn to different attractors, and different quasi-stationary positions. That will be for subsequent research to confirm or deny.