WALDEN UNIVERSITY

Core Knowledge Area Module 3:

Principles of Organizational and Social Systems

Student: Richard E. Biehl
Program: Applied Management & Decision Sciences
Specialization: Leadership and Organizational Change
First Assessor: Dr. Vicky K. Black
Second Assessor: Dr. Lilburn P. Hoehn

January 2001

Core KAM 3: Principles of Organizational and Social Systems

SBSF 8310 - Theories of Organizational and Social Systems

Abstract - Breadth

The breadth component outlines principles of organizational theory, emphasizing structural aspects that delineate the dimensions along which organizations vary in their environment. It then presents basic components of system theory, emphasizing the ways in which organizations can be viewed as open systems, before discussing ways in which different types of social organizations can be understood as complex systems.

Core KAM 3: Principles of Organizational and Social Systems

SBSF 8322 - Current Research in Organizational Systems

Abstract - Depth

The depth component explores the specific aspects and dimensions of organizations that delineate nonprofit organizations from other types. It then discusses specific aspects of systems theory dealing with complexity and self-organization before using those aspects to map the nonprofit organizational dimensions to the organization model presented in the breadth component.

Core KAM 3: Principles of Organizational and Social Systems

SBSF 8332 - Professional Practice and Organizational Systems

Abstract - Application

The application component presents case studies of three specific nonprofit organization interventions in which vision and mission statements were established through facilitated collective discussion of multiple stakeholders. It then maps the experiences in those case studies to the complexity and self-organizational aspects of nonprofit organizations presented in the depth component.

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

Transfer Credits							
Course Number	Course Title	Quarter	Year	Institution	Grade	Credits	
ECTI Program	Walden ECTI	-	1997-1999	Walden University	4.0	9 ✓	
							Total
							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: updated 11/1/2000

FYA/FM Signature: _____ Date:_____

Program Director's Signature:_____ Date:_____

VPAA's Signature:_____ Date:_____

Learning Agreement Approval Form

Received via e-mail on February 14, 2000….

Just a quick note to inform you that your KAM 3 Learning Agreement was Approved and processed by OAA. Please keep a copy of this message for your records, and don't forget to enclose a printout of this confirmation with your completed KAM. - Shawna

X-Sender: lhoehn@mail.waldenu.edu
X-Mailer: Windows Eudora Pro Version 3.0.1 (32)
Date: Fri, 11 Feb 2000 15:17:03 -0500
To: la@waldenu.edu
From: "Lilburn P. Hoehn" <lhoehn@waldenu.edu>
Subject: Re: KAM Learning Agreement Submission - Biehl

Date: Thu, 10 Feb 2000 11:35:27 -0500
From: black <black@host.cntwk.net>
To: lhoehn@waldenu.edu
Subject: Re: KAM Learning Agreement Submission - Biehl

First assessor comments:
I think Richard has an understanding what is required in his first Kam.
Second assessor comments:
I agree with the first assessor. This is a good learning agreement. Lilburn Hoehn

Student Information
Submission date: 01/25/00
Student name: Richard Biehl
Student email address: rbiehl@waldenu.edu
Student phone number: 407.296.6900
KAM Information
1st Assessor: vblack@waldenu.edu
Track: AMDS
Specialization: Leadership and Organizational Change
Faculty mentor: Vicky Black
KAM number: 3
Initial KAM: Yes, this is my initial KAM
KAM title: PRINCIPLES OF ORGANIZATIONAL AND SOCIAL SYSTEMS
Estimated completion date: 05/15/00

Approved Learning Agreement

Learning Agreement

Core KAM 3: Principles of Organizational and Social Systems

Student: Richard E. Biehl
Program: Applied Management & Decision Sciences
Specialization: Leadership and Organizational Change
First Year Advisor: Vicky Black

Learning Agreement Submission: January 2000
Targeted Completion for KAM: May 2000

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Learning Agreement

Core KAM 3: Principles of Organizational and Social Systems

Introduction

This Learning Agreement for Core KAM 3, Principles of Organizational and Social Systems, describes my plan of study for the AMDS core knowledge area on organizations and society. This KAM allows me to explore organizational theory as it has always applied to my consulting practice while also expanding beyond my personal experiences to a better defined holistic model of organizations. In particular, it allows me —through the application component— to analyze some of my own experiences as an organizational change agent in the nonprofit sector.

Specific high-level objectives for this KAM are:

1. Synthesize a framework for analyzing organizations by mapping their characteristics to one or more characteristics or forms found in systems theory. (Breadth)

2. Analyze the specific characteristics of such a mapping when focused on the non-business portions of the analyzed organizational models, and the nonlinear portions of the analyzed systems models. (Depth)

3. Evaluate the applicability of such a focused model on several actual organizational interventions that resulted in significant organizational change. (Application)

SBSF 8310 - Theories of Organizational and Social Systems

In the breadth component of this KAM, I would like to develop a working framework for understanding organizations according to the characteristics and criteria defined by the experts in the field. At the same time, I want to explore how different aspects of basic and advanced systems theories can be used to illuminate further aspects of organizations and how they can be understood and changed.

Specific breadth objectives are:

1. Compare and contrast the various models of organizational structure and design described in the literature on organizations.

2. Compare and contrast the various systems models described in the literature as available for understanding or analyzing organizations.

3. Synthesize and integrate the available models for organization with the various systems models, resulting in a framework for analyzing organizational characteristics using characteristics of the systems through which they manifest themselves.

Reference Materials

The reference materials for this breadth component include three basic categories of materials: a) organizational theory, b) systems theory, and c) synthesis works that combine aspects of organizational and systems models. This KAM will be based on aspects of many readings, with analysis including comprehensive details from at least three complete works in each of the following three categories:

Organizational Theory

Daft, R. L. (1992). Organizational theory and design. Fourth Edition. St. Paul, MN: West Publishing.

Hall, R. H. (1996). Organizations: Structures, processes, and outcomes. Sixth Edition. Englewood Cliffs, NJ: Prentice Hall.

Katz, D.; Kahn, R. L.; & Adams, J. S. (Eds.) The study of organizations. San Francisco: Jossey-Bass Publishers.

Sofer, C. (1972). Organizations in theory and practice. New York: Basic Books.

Systems Theory

Dettmer, H. W. (1997). Goldratt's theory of constraints: A systems approach to continuous improvement. Milwaukee, WI: ASQC Quality Press.

Hofstadtler, D. R. (1980). Gödel, Escher, Bach: An eternal golden braid. New York: Vintage Books.

Laszlo, E. (Ed.) (1972). The relevance of general systems theory. New York: George Braziller.

Synthesis Works

Hodge, B. J.; Anthony, W. P.; & Gales, L. M. (1996). Organizational theory: A strategic approach. Fifth Edition. Upper Saddle River, NJ: Prentice Hall.

Hodge, B. J.; & Anthony, W. P. (1979). Organizational theory: An environmental approach. Boston: Allyn and Bacon.

Matejko, A. J. (1986). In search of new organizational paradigms. New York: Praeger.

Pfeffer, J. (1997). New directions for organizational theory: Problems and prospects. New York: Oxford University Press.

Learning Demonstration

The result of this analysis will be a written position paper, of not less than 30 pages, outlining the basic findings in organizational theory and system theory, culminating in a combined framework that maps aspects of systems theory to organizational theory counterparts and vice-versa. The framework will be detailed enough to compare and contrast differences among the three major organizational sectors —business, social, governmental— along the continuum from simple to complex systems (including aspects of Chaos and Complexity theories). Such detail will allow the view of the social

sector at complex levels of systems detail to be isolated and singled out for further exploration in the depth component.

AMDS 8322 - Current Research in Organizational Systems

In the depth component of this KAM, I would further explore the details of the application of complex system theories to non-business sector organizations.

Specific depth objectives are:

1. Evaluate the extent to which various key elements of the developed systems framework apply differently to organizations in different sectors; business, social, and governmental.

2. Evaluate the extent to which various key elements of the developed organizational framework are illustrated differently by different portions of the systems model.

3. Analyze and contrast how these interactions specifically affect the interaction and understanding of a focused view of social sector organizations and nonlinear systems theory.

Reference Materials

The reference materials for this breadth component include three basic categories of materials: a) social sector organizations, b) nonlinear dynamics, and c) synthesis works that combine aspects of social sector organizations and nonlinear dynamics. This KAM will be based on aspects of many readings, with analysis including comprehensive details from at least two complete works in each of the following three categories:

Social Sector Organizations

Banathy, B. H. (1991). Systems design of education: A journey to create the future. Englewood Cliffs, NJ: Educational Technology Publications.

Drucker, P. F. (1990). Managing the nonprofit organization: Principles and practices. New York: HarperCollins.

Nonlinear Dynamics

Çambel, A. B. (1993). Applied chaos theory: A paradigm for complexity. Boston: Academic Press.

Goldstein, J. (1994). The unshackled organization: Facing the challenge of unpredictability through spontaneous reorganization. Portland, OR: Productivity Press.

Jantsch, E. (1975). Design for evolution: Self-organizing and planning in the life of human systems. New York: George Braziller.

Kelso, J. A. (1995). Dynamic patterns: The self-organization of brain and behavior. Cambridge, MA: The MIT Press.

Prigogine, I.; & Stengers, I. (1984). Order out of chaos: Man's new dialogue with nature. Toronto: Bantam Books.

Wheatley, M. J. (1999). Leadership and the new science: Discovering order in a chaotic world. San Francisco: Barrett-Koehler.

Synthesis Works

Ahrne, G. (1984). Social organizations: Interaction inside, outside, and between organizations. London: Sage Publications.

Marion, R. (1999). The edge of organization: Chaos and complexity theories of formal social systems. Thousand Oaks, CA: Sage Publications.

Reigeluth, C. M.; & Garfinkle, R. J. (1994). Systemic change in education. Englewood Cliffs, NJ: Educational Technology Publications.

Scott, W. R. (1998). Organizations: Rational, natural, and open systems. Fourth Edition. Upper Saddle River, NJ: Prentice Hall.

Wheatley, M. J., & Kellner-Rogers, M. (1996). A simpler way. San Francisco: Barrett-Koehler.

Learning Demonstration

The result of this analysis will be a written position paper, of not less than 20 pages, representing a synthesis of my focused readings and research of the above general materials; supported by an annotated bibliography of at least 15 recent sources in the peer-reviewed literature on complexity theories and their impact on the understanding of organizations in the non-business sectors. For example:

Gordon, T. J.; & Greenspan, D. (1998, September). "The Management of Chaotic Systems", Technological Forecasting and Social Change(v) (n):nnn-nnn. — Analyzes the use of Chaos and Complexity theory in applications to public education and pedagogy.

There is a continuing rich and diverse literature base in this area that has grown extensively in the last few years.

AMDS 8332 - Professional Practice and Organizational Systems

In the application component of this KAM, I would like to apply the breadth framework and depth research to analyzing some of my own experiences in working with non-business organizational models as a change agent. I'm hoping that I can use this research base to understand some of my own past outcomes, and perhaps explain some of the pitfalls that I encountered in attempting to help organizations implement change.

Specific application objectives are:

1. Compare and contrast the above KAM results with my actual experiences as a strategic change agent for the National Space Society in the 1990's; discovering various explanations, using the organizational and systems framework developed above, that illuminate my positive and negative experiences during that NSS tenure.

2. Compare and contrast the above KAM results with the results and findings that I achieved in my masters research project on customers and suppliers in education, discovering further characteristics and factors from organizational and systems models that further explain or illuminate those results.

Learning Demonstration

The result of this application component will be an explanatory essay of 10-15 pages for each of the two analyzed scenarios. These essays will briefly summarize the case being analyzed, and then offer an analysis of how the organization and system framework has been applied, and how further observations of the case are illuminated by such application.

Self-Evaluation: Knowledge Area Modules (KAMs)

Student Name: Richard E. Biehl Date: January 2001

KAM: #3 Title: Principles of Organizational and Social Systems

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

As a consultant in my profession, I brought extensive personal experience in organizational issues to this project; and as a volunteer, a considerable set of experiences in the nonprofit sector as well. In fact, the case studies presented in the application component are taken directly from my personal experiences as a nonprofit volunteer. The breadth research I conducted allowed me to frame my experiences into a larger more complete model, and the depth reading allowed me to pursue personal hypotheses regarding what I've observed over the years as a nonprofit volunteer. I've often felt that volunteers tend to be highly self-organizing in the right situations, and this KAM allowed me to pursue the reasons why in the literature.

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

The breadth component lays the groundwork for the depth and application components by laying out a structural framework for the more detailed discussions to follow. What's amazing to me is that even as a breadth piece, it still leaves the vast majority of knowledge related to organizational theory, design, and development untouched. The component does its job; setting the stage for what

follows. It unifies its perspective as a sound whole; and it supports the offered framework using the key literature related to organization structure and design. Even within this focused breadth, the component still runs long; too long to have afforded space for even broader coverage. It was difficult to stop and call it finished; but after a year of reading and note-taking, it was time to be done.

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

I find the ideas surrounding strange attractors in chaos theory fascinating. My first exposure to the concepts was in my study of physics; and I was exposed to some of the organizational implication of the concepts in the late 1980's. For many years I've wanted to pursue the subject to a deeper level, and this KAM offered me that opportunity.

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?

The relationship between the self-organization construct (in complexity theory) and the strange attractor concept (in chaos theory) is at the underlying heart of what this KAM is all about. Members of organizations will self-organize around a clearly stated and agreed vision and mission; particularly if those statements have emerged from some form of shared experience. But self-organization without the concept of the attractor would be meaningless. The idea of the vision and mission as a strange attractor is that — while complexity theory predicts that people will self-organize — chaos theory predicts that such self-organization will not vary far from some stable, if unpredictable, pattern. There are limits to

how far people will wander from the vision and mission. Bureaucratic controls are unnecessary because there is no need to control people to keep them in line. In fact, many such controls are counterproductive precisely because they fall outside the boundaries of the strange attractor and so are dysfunctional.

As a result of this observation, I can approach my change interventions differently. To a certain extent, vision and mission are the only steps I need to guide an organization through. In the past, when I've attempted to follow up with goal setting and process design sessions, my own behaviors might have been in conflict with the organization's self-organizing response to those first vision and mission steps. Continued intervention might be counterproductive. I now must consider that some of my interventions that have failed have possibly done so because I attempted to do too much, not too little. My role as a change agent must be reconsidered in light of my possible conflict with the strange attractor of the system in which I am meddling.

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

The possibility that organizational members will self-organize around a clear sense of vision and mission has tremendous potential impact on all organizations. It means that the threshold for implementing change — the amount of energy that must be expended per unit of change — is much lower than traditionally thought. If vision and mission are only the first steps in an investment in change, then all subsequent steps increase the cost of change. But if the vision and mission are sufficient, because self-organization will kick-in for free after they are established, then organizational inertia becomes a lessened issue in anticipating how to help organizations change. Only modest investments are required to clarify vision and mission, as described in the cases in the application component. The

follow-on required investments may actually be much smaller than anyone anticipates. This is particularly important in the social sector where resources are scarce, and competencies for change among volunteers are often small or relevant only to their jobs in other sectors.

WALDEN UNIVERSITY

Core Knowledge Area Module 3:

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SBSF 8310 - Theories of Organizational and Social Systems

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January 2001

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Chapter 1

Introduction

Overview

The study of organizational systems is an endeavor made all the more difficult by the complexity inherent in studying organizations and systems separately. Both fields include a form of internal debate and discussion about the scope and purpose of such studies. In the case of the study of organizations, the debate seems to hold back the field, resulting in such a diversity of models and vocabularies that it can seem difficult to tie together the work of more than a handful of writers at a time. In the case of the study of systems, the debate seems to mirror the basic wonderment of the field, contributing to an excitement not seen in the writings of the organizational contributors. It's as though the writers on organization are all shooting at each other's models, while the systems theorists are all trying to pile their models higher and higher.

Objectives

This knowledge area module (KAM) looks at organization and social systems. This breadth component begins by discussing the fields of organizational studies and systems studies separately, before combining them for discussion and integration. Specific breadth component objectives are:

1. Compare and contrast the various models of organizational structure and design described in the literature on organizations.

2. Compare and contrast the various systems models described in the literature as available for understanding or analyzing organizations.

3. Synthesize and integrate the available models for organization with the various systems models, resulting in a framework for analyzing organizational characteristics using characteristics of the systems through which they manifest themselves.

Summary

This breadth component builds a story of organizational systems that leads to the type of organization found in the nonprofit, or social, sector of the economy. There are aspects of such organizations that are truly unique to their class; as well as aspects that are fundamental to all organizations. The purpose of this breadth component is to paint a broad enough picture of organizations and systems generally to be able to differentiate these areas of similarity and difference. The depth component will explore the differences; and the application component will illustrate some of those differences with actual cases from the nonprofit sector.

Organizational Theory

The exploration of organizational theory below begins with a look at the types of organizations that exist. Hicks and Gullett (1975) offer the most encompassing view that includes ten levels of organizational types; each level typically building on the previous. Not all authors cited here would agree that all ten levels constitute what should be called organizations; but the differences in opinion are not crucial to the story. Some authors simply don't start to call any particular amalgamation an organization until their own narrower interpretive definitions have been satisfied.

Mintzberg (1979) and Daft (1992) offer something close to the collective consensus when they view virtually any collective of people oriented toward a purpose or goal as an organization. Their structural and contingent factors form the backbone of chapter two. Parsons (1960, 1971) offers useful functional definitions that are added to Mintzberg's and Daft's structural dimensions; although Parsons

might exclude some of the familial and political organizations from the list of types included by others because they fail to meet his criterion of orientation toward goals of production.

Together these authors, and others, provide the structural, functional, and contextual dimensions with which organizations can be filtered to understand their similarities and differences. The interplay of these dimensions accounts for the types and diversity of organizations observed in the real world.

Systems Theory

A look at the origins and writings of General Systems Theory provides a set of tools for looking at any system of interacting actors or variables. Early writings by Bertalanffy (1956), Laszlo (1975), and Ackoff (1960, 1995) provide the framework for listing the characteristics of systems found useful in systems thinking when discussing and analyzing systems.

Systems theory provides a set of constructs and concepts for thinking about systems. Since this breadth component is attempting to identify opportunities to analyze different types of organization as systems; a list of core concepts in systems thinking provides a set of criteria that can be juxtaposed against the concepts and constructs of organizational theory to provide a framework for discussing organizational systems. Chapter three of this depth component is not an attempt to detail all of the inner workings of systems theory; rather, to provide that list of criteria that is sufficient to bridge from a discussion of organizations without systems thinking to one with systems thinking.

Organizational Systems

To the extent that chapter two provides a set of independent and dependent variables for understanding organizations, as well as a look at some of the mediating factors that affect their interaction, organizational theory provides a model of organizational systems. Chapter three provides a

set of heuristics provided by general systems theory for analyzing and discussing systems. Together, these components provide for a general systems analysis of organizational systems in chapter four.

The view of organizational systems below focuses on the interaction between, and relationships among, the different components of organizations. These differences compound the variety and diversity of organizations depicted structurally and functionally in chapter two. With relationships and purposefulness, organizations of common structure and configuration further diverge based on the roles they play in the society and economy.

The distinctions among organizations oriented toward the economy and profit (e.g. business enterprises), those oriented toward individuals (e.g. families), those oriented toward control and rights (e.g. states), and those involved in broader social purposes (e.g. nonprofits) isn't found in their structures and organizational functions. The distinctions are found in their systemic interactions; in how they organize their internal and external relationships; and how their constituent parts feel about what they are doing.

Looking Ahead

The depth component of this KAM will look at a narrower focus of organizations; primarily taking the nonprofit organization model from chapter four and showing how the complexity dynamics and self-organizing behavioral aspects of systems described in chapter three are useful in modeling and affecting such organizations.

The simplest organizations will be found to exhibit relatively simple systems behavior. Organizations that can drive out most of the human element of their interactions (i.e. bureaucracies) find that their inherent systems model remains simple and linear. Those that require more of the human element — and nonprofits are the extreme such case where people largely are the organization and what

it does — will require more complex systems models in order to account for the complex dynamics introduced by that human element.

The structural components of such organizations will mirror the general organization models outlines in chapter two; but their behavioral actions will be better accounted for by applying some of the complex systems ideas outlined in chapter three. The model that emerges will have implications for other types of organizations that can currently hide some of their complexity behind their bureaucracies.

Chapter 2

Organizational Theory

Introduction

This chapter explores the major writings in organizational theory, focusing on the structural and design elements that allow for a detailed discussion of the various types of organizations and how they are built and operate. The structure of this chapter is modeled on the writings of Mintzberg (1979), and Daft (1992). Of particular interest here are the various dimensions and variables these writers use to define and describe organizations, and how those dimensions and variables differ over major classes of organizations.

What is an organization?

Parsons (1960) discusses organizations in terms of goal-attainment. "Primacy of orientation to the attainment of a specific goal" distinguishes organizations from other forms of social system. (p. 17) He presumes that an organization will produce "an identifiable something" that will be used by another system to attain its goal. (p. 17)

Scott (1998) offers three definitions; one for each of the systems models that he explores. As rational systems, organizations "are collectivities oriented to the pursuit of relatively specific goals and exhibiting relatively formalized social structures." (p. 26) This definition is normative, but his use of relative references leaves it lacking operational specificity. Focusing less on goals and more on the self-serving need for resources, Scott also offers a definition for organization as a system occurring in nature. "Organizations are collectivities whose participants are pursuing multiple interests, both disparate and common, but recognize the value of perpetuating the organization as an important resource." (p. 26) As an open system, Scott sees organizations as "systems of interdependent activities linking shifting

coalitions of participants; the systems are embedded in — dependent on continuing exchanges with and constituted by — the environments in which they operate." (p. 28) To Scott, all three definitions hold, but one will typically dominate the purposes of any particular study or analysis. (p. 29)

Matejko (1986) asserts that most organizations are some combination of Scott's rational and natural definitions. The former seeks maximum efficiency in pursuit of goals, while the latter people seek the survival of the system only to pursue their own goals. He argues that both perspectives are valid, yet neither is sufficient if pursued in isolation. (p. 88) He points out that the rational model performs adequately in isolation in western societal settings where physical and survival needs are typically met, and individuals seek gains often beyond the material. But this perspective fails when used in situations of limited freedom, low education, and meager resources. The rational model alone presumes the natural needs are being met; a condition that remains untrue in too many setting. (p. 89) In these situations, the goals of the collective are likely to be the actual goals of the individuals in the collective (e.g. protect belongings, obtain food, etc.)

Levels of Organization

Writers in the literature describe a broad range of definitions for organization; a few taking in an extremely broad diversity, while most focus quickly on business organizations and their forms. Among the broadest descriptions, Hicks and Gullet (1975) describe a model of ten levels of organization that can be identified (Table 1). Their model begins with an organization of the simplest combination of ideas or real-world chemical interactions and leads up to the transcendental organization where members put some higher purpose above their own personal objectives. Their simpler forms, particularly the lower five that would not normally be associated with life, would be excluded from a discussion of organization by most writers, but the inclusion of such forms provides a firm grounding for

examining any non-random collection in order to allow characteristics of organizations to emerge. In fact, the mid-range levels that Hicks and Gullett associate with general systems will have implications in the application of general systems concepts to the higher forms described in the upper three levels.

Table 1 - Hicks & Gullett's (1975) Levels of Organization

1. Elemental interaction	Thoughts; chemical reactions.
2. Static structure	Descriptive models or concepts.
3. Simple dynamic	Predetermined or necessary actions and motions.
4. Cybernetic	Possessing ability to modify itself.
5. Simple open	Capacity for self-maintenance and reproduction.
6. Genetic-societal	Division and specialization; mutual dependency.
7. Animal	Specialized information processing, complex nervous system and a brain.
8. Human	Intelligence, self-reflexive, time referent, adaptable, control of environment, language, culture.
9. Human Organizations	Two or more humans.
10. Transcendental	Pursuit of ultimate and perhaps illusive knowledge, truth, aesthetics.

Relationships in Organizations

Hicks and Gullet (1975) describe the relationship among components of organizations as being of five types, while acknowledging the obvious overlap of the types at their margins: 1) accidental relationships where no participants deliberately or intentionally associate with one another, 2) parasitic relationships where some component gains at the expense or detriment of another, 3) one-way relationships where benefit or gain tends to flow from one component to another, 4) mutualistic relationships where the association is deliberate, though not necessarily conscious, and all benefit from the interaction, and 5) transcendental relationships which go beyond mutualistic to aim at some

intrinsically higher aim or purpose, the benefit somehow being beyond the components directly. (p. 8-12)

They also view relationships in organizations according to the functional purposes and synergies that such relationships serve. Where quantity is a key factor — like or similar resources adding cumulatively to create greater capacity for similar functions — the additive relationships are built on what Hicks and Gullet refer to as "supplementary similarities." (p. 13) Where qualitative factors play a key role — meaning that dissimilar or differentiated resources are combined to create capabilities and specialization not present in the individuals — the relationships are referred to as "complementary differences." (p 14) Most organizations are built using combinations of supplementary similarities and complementary differences; with the overall appearance of the organization often determined by how those combinations occur.

Individuals in Organizations

Do organizations actually exist? Hall (1996) covers the debate over the usefulness of organization as a construct, pointing out that organizations generally can't be defined without reference to the underlying system of interacting individuals. Exchange theory attributes interactions within organizations to the direct interaction of individuals; even when those interactions are highly asymmetrical. To a certain extent, organizations are social constructs only. Hall makes his own claim that organizations are quite real, and worthy of study. Individuals in organizations often interact in ways other than exchanges; and one could argue that the individuals in an organization may be challenged in their existence without organizations. (p. 31) Ask an individual to describe themselves and they will typically list the organizations of which the are a part. Understanding them in detail or deeply usually requires asking *why* they are a part of those organizations.

Hicks and Gullet (1975) agree, pointing out that understanding organizations requires understanding the motivations and objectives of the individuals who make up those organizations. "We might say that persons join organizations to satisfy their personal objectives. They find that organizations allow them to achieve goals that they cannot achieve alone." (p. 23) Such an expectation illustrates the synergistic effects of what Hicks and Gullet have would describe as mutualistic relationships and built on complementary differences. Individuals in organizations bring different talents and objectives, and combine to meet both personal and shared goals. Everyone in the relationship expects the value of the relationship to exceed its cost.

Viewed in this way, individual participation and membership in organizations can be viewed as an exchange relationship; an economic one. Classical theory would predict that individuals are simply endeavoring to satisfy their biological needs through the seeking of economic goals and activities. Hicks and Gullet (1975) point out that such a view tends to "oversimplify human needs," and that there is "more to life than security and maintenance of life." (p. 29) Scientific management, based on worker efficiency and the following of management instructions, is also based on individuals responding rationally to the economic payments offered for their work. The bureaucratic and administrative model's emphasis on structure and order, with its hierarchy and specialization based on clear-cut instructions, also offers a "safe but nonchallenging form of organizational life." (p. 29)

The neoclassical model attributes objectives to individuals that go well beyond economic maintenance and security. Organizational members are viewed as also socially motivated, establishing informal social relationships that represent the antithesis of the simple classical view. "An overemphasis on rationality and formalism are seen as contributing to negative employee attitudes and reduced productivity." (Hicks & Gullet, 1975, p 30) The modern theory attributes even greater complexity to

individual involvement in organizations. Members are seen as looking for self-esteem, the esteem of others, and development and self-actualization. Such levels "interact in a complex and integrated fashion." (p. 30) Hall (1996) attributes the ability of organizations to determine the individual's placement in the social stratification system as among the most important outcomes of organizations with respect to individuals. (p. 7)

At its simplest, Hicks and Gullet (1975) describe a motivational model whereby individuals join organizations in order to pursue some goal-directed activity that will satisfy one or more of their unmet needs. A problem that they attribute to such a simplified model is that it does not explain why particular needs are given priority by individuals, nor why they pick any particular organization to promote meeting such a need. They propose the interaction of each individual's personal values with the environment as the primary prioritizing influence, and a perception of a role-fit as the lead organization choosing mechanism. Their expanded model then includes six steps: 1) past and present environmental factors influence an individual's perception of needs, 2) personal values influence the prioritizing of such needs, 3) such prioritizing determining which unmet needs become selected as unsatisfied and in need of remediation, 4) the formation of goals for meeting those needs, 5) the identification or perception that a role is available in one or more organizations for pursuing those goals, and 6) the joining of such organizations and pursuit of those goals. (p. 31-34)

Each of the model's steps, particularly the sixth, alter the environmental factors that initiated the model, this forming a repeating cycle of activity involving individuals in organizations. Both the individuals and the organizations are altered by the cycle. Participation in organizations alters the perceptions and needs of the individual. Receiving and occupying a new member will alter the organization. Hicks and Gullet describe each iteration of the cycle as requiring accommodation in order

to establish equilibrium. They view personal values as stabilizing notions in the model. (p. 33) While an individual's values change through life, they tend to do so slowly. Values, then, act as constraints to keep the cycles of perception and goal-role establishment from swinging wildly. This provides the necessary stability for individuals to participate in organizations long enough to receive the expected mutual benefit.

The perceptions and needs of the individual are discussed by March and Simon (1958) as affects of the role that cognition plays in the adopting of goals and selection of organizations in which to participate. Cognition can be a means of identifying goals; although instinct and emotion are more likely sources. The key role of cognition is in the selecting of goal-seeking behaviors; one of which can be the identification and joining of organizations likely to enhance goal attainment. The cognition, then, creates subgoals to the main goals established by instinct and emotion. Sometimes such goals match the goals of the organizations joined; other times they do not. Goal attainment then becomes a by-product of helping an organization reach its own goals. (p. 150-152)

Coordination of Individuals

Being made of individuals, each with varying objectives and degrees of commitment based on the alignment or nonalignment of these goals and subgoals, organizations must coordinate activities in order to attain more than simply the personal goals of the individuals. Coordination allows the organization to pursue goals through those individuals. Where individual goals are not generally aligned with organizational goals; it becomes likely that individuals will often draw incorrect inferences from coordination information provided by the organization. March and Simon refer to a "formal uncertainty absorption point" (p. 166) that must be established to clear up and streamline coordination communication. This point becomes the organization's official or legitimate source of information.

Individuals throughout the organization are encouraged to use only "legitimized 'facts"' in the decision-making. (p. 167)

Mintzberg (1979) describes five mechanisms that organizations use to achieve such coordination, each having different structures depending the need for goal-alignment or information legitimization required in the organization: 1) mutual adjustment, 2) direct supervision, 3) standardization of work processes, 4) standardization of work outputs, and 5) standardization of worker skills. He considers these "the most basic elements of structure, the glue that holds organizations together." (p. 3)

With mutual adjustment, individual workers are able to communicate directly with each other to coordinate activity and make adjustments in real-time. The earliest and simplest organizations rely on such coordination without the need for any management or supervisory structures. As the scope or complexity of the task expands, direct mutual adjustments become inadequate for making all of the necessary control decisions and actions in the work, and an enlarged organization based on more complicated controlling mechanisms will kick-in.

Paradoxically (Mintzberg's term, p. 3), mutual adjustment also becomes a dominant control mechanism as the task or activity of the organization increase to the far extreme of complexity; beyond the point where any other management or supervisory mechanism can be timely and responsive enough to be effective. Under such circumstances, only mutual adjustment controls between active workers or professionals proves adequate.

Between these opposite extremes of simplicity and complexity, Mintzberg's four other coordinating mechanisms are found at work. As the size of the organization outgrows the capabilities of mutual adjustment, direct supervision typically is involved; with one individual taking on responsibility for overseeing the work of the group. As the organization grows further, multiple coordinators become

necessary with mutual adjustment still the coordinating mechanism among these supervisors. With further growth, direct supervision among the first-level supervisors becomes necessary, and the organizational hierarchy emerges.

Beyond the emergence of a growing organizational hierarchy, further coordination is achieved through various forms of standardization. When the details of how to do various activities or tasks is specified and then followed, the coordinating mechanism is standardization of work processes. When such process details are omitted, but specifications for what products and services provided by the organization is provided, the coordinating mechanism is standardization of output. When neither process nor output can be precisely specified, control is obtained through standardization of skills. Such standardization focuses on the training required for workers in the organization so that they will be likely to achieve adequate results and outputs that, generally, correspond with each other through the common base of training and skill.

While the three forms of coordination based on standardization are not mutually exclusive, and can be used simultaneously in most organizations, Mintzberg sees them as corresponding to a rough continuum of complexity. (p. 7-8) Standardization of work is effective in those situations where the tasks are simple enough to be fully elicited and documented. Teaching workers to follow these fixed processes is adequate to assure control. As the work becomes more complex or the workers more skilled, unambiguous definitions of the work processes, with the necessary nuances and exceptions, becomes difficult. By specifying only the outputs required, and using more skilled workers who will follow or discover less-detailed processes, control is achieved. As the work becomes too complex to specify detail work activities or outputs, the skill of the worker becomes the only available control

mechanism. We expect these highly trained workers, usually by now known as professionals, to apply their skills and knowledge to achieve controlled work processes and outputs.

Structure of Organizations

Mintzberg (1979) describes five notable parts of every nontrivial organization (Table 2). In extremely simple organizations, parts are unnecessary because each component, or "operator", in the organization is self-sufficient. (p. 18) But as the organization grows beyond such an overly simple structure, specialized components emerge. At the center of such organizations is found the "operating core," the organizational operators who carry out he actual and bulk work of the organizations; just as the self-sufficient operators had been doing in the even simpler organizations. Surrounding the operating core are another four components made necessary by the demands of the growth in size and complexity of the organization and what it is attempting to accomplish.

Table 2 - Mintzberg's (1979) Basic Parts of the Organization

1. Strategic Apex	Decision makers, responsible for strategy.
2. Middle Line	Implements strategy, makes up chain-of-command.
3. Operating Core	Basic work operators of the organization.
4. Technostructure	Standardizes work, manages external environment.
5. Support Staff	Indirectly supports line, provides work environment.

Of these four, three make up the administrative side of the organization. Those that make the strategic decisions for the organization, and who reside at the top of the organizational hierarchy make up the "strategic apex" of the organization. Forming a bridge between the strategic apex and the operating core is the "middle line," constituting the chain-of-command for the organization and seeing that the organization's strategy is implemented. Providing the technical expertise that makes the

organizations other than an administrative shell, the "technostructure" provides the knowledge necessary to standardize the work of the core and manage its relationship with the external environment.

The fifth of Mintzberg's five components of an organization is the "support staff." The support staff works outside of the direct line of work performed by the core, yet indirectly supports that work by providing the working environment and support necessary for the core and other parts to functions. This support function often constitutes the largest component of the organization. (p. 19)

Structural Dimensions

The placement, size, and interdependency of these functional components of the organization will vary, and take on different appearances, based on many factors that affect organizational design; the different dimensions in which the organization can be planned and executed. Depending upon the dimensions adopted for discussion and analysis, an organizational solution space — defined by those structural dimensions — is logically created. Organizational behaviors and relationships can then be analyzed, even predicted, by the way any particular organization maps itself into that solution space.

Daft (1992) describes organizations structurally using eight dimensions (Table 3). To Daft, structural dimensions are meaningful to the extent that they help describe the internal characteristics of organizations. He differentiates these from the contextual dimensions (discussed below) that work to characterize the entire organization externally. (p. 12-13)

Table 3 - Daft's (1992) Structural Dimensions

1. Formalization	Amount of written documentation.
2. Specialization	Subdivision of tasks into separate jobs.
3. Standardization	Uniformity of similar work activities.
4. Hierarchy of authority	Reporting relationships, span of control.
5. Complexity	Number of activities or subsystems.
6. Centralization	Location of decisions within hierarchy.
7. Professionalism	Formal education and training of employees.
8. Personnel ratios	Deployment of people into functions.

Daft describes various ways in which these eight dimensions intertwine to result in the various types of organizations actually observed. They can be used to make observations about organization including factors not typically noticed by the causal observer, and more importantly, they can be used to compare multiple organizations. (p. 18)

Mintzberg (1979) discusses the dimensions within which organizations function as a collection of nine design parameters that can be tailored or manipulated in order to create or fashion organizations of different form and complexity (Table 4). He refers to each as related to design because of the fact that they can be manipulated intentionally to design an organization, whether the form of the manipulation results in a formal structure, or an semiformal cultural or implicit change in the organization's environment. (p. 66)

Table 4 - Mintzberg's (1979) Design Parameters

1. Job specialization	Breadth and depth of positions.
2. Behavior formalization	Implicit and explicit controls.
3. Training and indoctrination	Work skills and cultural attributes.
4. Unit grouping	Supervisory and chain of command.
5. Unit size	Span of control, mutuality.
6. Planning and control systems	Decisions made, and standards set.
7. Liaison devices	Coordination across organizational units.
8. Vertical decentralization	Decisions down the chain of command.
9. Horizontal decentralization	Non-management control over decisions.

Three of Mintzberg's design parameters deal with the design of positions in the organization: job specialization; behavior formalization; and training and indoctrination.

The parameter dealing with job specialization includes two continuums. Job breadth, which deals specifically with what kinds of work are associated with a job and ranges from precise specialization to broad job enlargement, is referred to by Mintzberg as "horizontal job specialization." (p. 69). Job depth, which deals with potential separation of the performance of the duties of a job from the administration of that job, is referred to by Mintzberg as "vertical job specialization." (p. 71) Mintzberg points out that as jobs are specialized horizontally, the cross-job administrative requirements increase to include more and more connections to an increasing number of distinctly specialized jobs. As a result, "jobs must often be specialized vertically because they are specialized horizontally." (p. 72) When jobs are enlarged horizontally (i.e. the opposite of specialization horizontally), workers take on more and broader ranges of tasks. When jobs are enlarged vertically, workers take greater ownership and control of their tasks. This latter vertical enlargement is sometimes referred to as job enrichment. (p. 75)

By formalization of behavior, Mintzberg is describing "the design parameter by which the work processes of the organization are standardized." (p. 81) Behavior can be formalized through the definition of specific job descriptions, or by the specification of work flow and product standards, or through generalized organizational rules that apply to entire segments of workers. The effect of any such formalization is the same; "behavior is regulated." (p. 82) Formalization of behavior allows for greater control and predictability in what happens throughout the organization. "The fully formalized organization … is the precise organization." (p. 83) Mintzberg refers to this dimension as a precursor to a discussion of organizations as bureaucracies; organizations that achieve control primarily through formalization of behavior. (p. 84)

Training and indoctrination complete Mintzberg's design parameters looking at positions within the organization. "Training refers to the process by which job-related skills and knowledge are taught, while indoctrination is the process by which organizational norms are acquired." (p. 95) Training plays an important part in virtually all position definitions; however, Mintzberg recognizes the primacy of training in the definition of professional positions — positions where formalized job descriptions and rules of workflow are unavailable because of the diversity and complexity of work situations in which such controls would need to be applied.

Mintzberg suggests that formalization and training can be viewed as two alternative forms of control that serve similar purposes. Formalizing procedures and rules provides direct control over work behavior, while indirect control is gained by acquiring highly trained professionals who can work without detailed or formalized procedures. The decision whether to take the direct approach with unskilled workers, or the indirect approach with professionals, or some combination of these alternatives, is dependent upon each unique organizational context, making the design of positions a key dimension for

structuring organizations and their outcomes. (p. 101) As a result, "professionalism and bureaucracy can coexist in the same structure." (p. 103)

The next two of Mintzberg's design parameters deal with the design of the organization's superstructure: unit grouping, and unit size. Mintzberg describes unit grouping as "a fundamental means to coordinate work in the organization." (p. 106) In addition to allowing for the establishment of common direct supervisory functions and goal setting, creating work groups in the organization allows for sharing of resources and skills being applied to common purposes, and increases the chances that mutual adjustment will be used as the coordinating mechanism at the local level, or bottom of the organizational hierarchy.

Such grouping can also establish standardization of outputs as a common performance measure for unit groups. In these ways, unit grouping is a critical dimension for most organization's to establish the various coordinating mechanisms as dominant or secondary in the organization's formal structure and informal culture. (p. 107) The criteria by which groups are established — whether by geography, function, customer, or product — only adds to the availability of control and standardization options.

The parameter of unit size is the key determinant in span of control for control functions within the organization. As organizations dependent on mutual adjustment grow and begin to use direct supervision, the ability of an individual to manage a group of people is limited by the size of that group. Work groups then, are limited to the number of people who can be effectively directly supervised. As standardization becomes a key to coordination, the manageable size of work groups grows because the standards serve as proxy for the direct presence of supervisors. (p. 139) Increasingly larger organizations able to standardize products and processes are then seen as becoming flatter organizationally over time. Portions of organizations that Mintzberg would describe as the operating

core, where standardized processes, products, and services are a reasonable goal, will tend to have the largest organizational units relative to the rest of the organization. (p. 143)

But, Mintzberg also pointed out previously that as organizational tasks, products, and services become increasingly complex, coordination must return to mutual adjustment among professionals. Such forces will tend to impeded the growing flatness and scale of the organization as groups try to remain small enough to encourage such mutual sharing. This is seen in current organizations emphasizing learning and knowledge management. As a result, portions of the organization that Mintzberg would describe as the strategic apex or technostructure will be seen to have the smallest organizational units relative to the rest of the organization.

The next two of Mintzberg's design parameters deal with the design of lateral linkages within and across the organization: planning and control systems; and liaison devices. Mintzberg ties these two parameters to his previous coordinating mechanisms by emphasizing "planning and control systems that standardize outputs and liaison devices that grease the wheels of mutual adjustment." (p. 148)

In terms of standardization, planning creates the standard or some other description of desired or intended output, while control works to assure that the standard has been met. Neither planning nor control are possible or realistic without the other. (p. 149) Performance controls (e.g. objectives, budgets, operating plans) are developed and monitored for each organizational unit; making unit structure and size key factors in the planning and control dimension. Mintzberg points out that such performance controls are effective when responsibility for meeting plans can be assigned to distinct organizational sub-entities, whether work groups or entire divisions, but that such planning and control becomes difficult when dealing with issues and concerns that cross organizational boundaries and lines of control; particularly those dealing with interdependencies between organizational units. "In other

words, something other than a performance control must be found to coordinate work in the functional structure." (p. 153)

What Mintzberg refers to as "action planning" provides for such a mechanism. Action planning allows the organization — at whatever level of scale and detail is appropriate — to make specific decisions that may have implications across organizational boundaries and units. This places action planning as a control mechanism in the middle of a continuum between performance control that is a very general control and behavior formalization which looks to formalize detail standards and guidelines for making decisions. "Action planning emerges as the means by which the nonroutine decisions and actions of an entire organization, typically structured on a functional basis, can be designed as an integrated system." (p. 154)

The extent to which an organization emphasizes performance controls or action planning will be a function of its scale and reach. The larger the reach of an organizational unit, the more likely that general controls such as performance controls will be used because of the difficulty of managing action plans over extended geographies and organizational boundaries. Such factors tie the planning and control parameter to the two decentralization parameters discussed below.

Mintzberg sees the liaison dimension as offering organizations opportunities to communicate across the hierarchy created by their unit grouping and lines of control. In many organizations, such cross-organization liaison remains highly informal. The classic "office grape-vine" represents such a liaison function at an extreme level of informality. As the requirements of the organization for increased contact across units grows, the liaison function takes on other, more formalized, forms. Task forces and standing committees are initial forms of cross-organizational liaison. As further requirements emerge, matrix organizational forms can institutionalize groupings that cut across traditional, or hierarchical,

organization boundaries. Mintzberg identifies the middle layers of the organization as optimum for liaison activities because of their common need for cross-functional decisions making and distinctions between primary line and staff support. (p. 179-180)

The final two of Mintzberg's design parameters deal with the design of the organization's decision-making capabilities and systems: vertical and horizontal decentralization. Mintzberg describes centralization as "the most confused topic in organization theory." (p. 181) He limits the discussion to power over decision-making. When decisions are made at a single point in the organization, whether an individual or small group, the organization is centralized. When decision-making is dispersed, the organization is decentralized. Factors such as geographical dispersion or functional isolation may result in centralization or decentralization; but they are not in themselves centralization/decentralization issues. (p. 185-186)

Mintzberg defines two dimensions of decentralization each interdependent on the other. Vertical decentralization occurs when decision-making is pushed down the chain of command of the organization. Thus, vertical decentralization is a function of unit grouping and size. If such units are geographically or functionally dispersed, then vertical decentralization also corresponds to such geographic or functional dispersal. Horizontal decentralization occurs when decision-making is passed to individuals or collectives outside of the chain of command as determined by the unit grouping hierarchy.

The level of decision-making that is decentralized is also a variable. It is possible to decentralize informational and analysis aspects of decision-making without decentralizing selection and execution authority. As such, centralization is not a static dimension for an organization. The extent to which decision-making has been centralized at the top, or disperse through the chain of command, or

delegated to non-management support staff; and the types of decision-making that have been so dispersed; forms a fabric over the entire organization and is an integral dimension for understanding the organization and how it will function.

Daft's (1992) Contextual Dimensions

Both Daft (1992) and Mintzberg (1979) describe additional structural factors beyond those defining the internal structure and operation of the organization. Daft describes such factors as contextual dimensions (Table 5) that set the context in which the organization evolves into its observed structural dynamic.

Table 5 - Daft's (1992) Contextual Dimensions

1. Size	Number of people.
2. Organizational technology	Nature of production capability.
3. Environment	Elements outside organizational boundary.
4. Goals and strategy	Purpose and competitive techniques.
5. Culture	Underlying values, beliefs, and norms.

Daft describes size as being measured in terms of the number of people making up the organization; admitting that he is primarily concerned with the organization as a social system. (p. 15) If size is taken as simply magnitude of the organization, then other less-social measures also become relevant; including traditional accounting measures such as total sales or total assets.

He describes the technology context in terms of the production subsystem; offering examples such as an assembly line and oil refinery. His focus is on the technologies required to change inputs into outputs. For industries not described easily in terms of production (e.g. service, education, health), this dimension might be described as organizational competency.

Daft's environment dimension expands the picture of the organization to include all of its major stakeholder interfaces; including industry, government, customers, supplier, and investors. He points out that it is other organizations within the environment that often have the greatest impact on the structural considerations that are contingent on context. (p. 15)

Previously (Daft, 1983), Daft limited his list of contextual factors to these three. The inclusion of goals and culture were in his 1992 edition; and these, along with their affect on his entire discussion of organizations throughout the remainder of the book, constitute a snapshot of the changing in his thinking over a little more than a decade. He now sees the goals and strategy of an organization, also referred to as purpose and competitive techniques, as ideas "that set it apart from other organizations." (p. 16) Whether written or unwritten, goals and strategy have significant impact on direction of thinking and allocation of resources.

Additionally, Daft includes culture as a new fifth contextual dimension. Usually unwritten, the cultural beliefs and actions help hold the organization together during changes made or impacted by the other structural or contextual dimensions.

Mintberg's (1979) Contingency Factors

Mintzberg refers to contingency factors (Table 6) that determine the directions in which an organization will define and develop its structure.

Table 6 - Mintzberg's (1979) Contingency Factors

1. Age & Size	Pressures to centralize/decentralize.
2. Technical System	Establishing scale and complexity.
3. Environment	Stability, complexity, and hostility.
4. Power	Demands from external controls.

Age & Size. Mintzberg describes the factors of age and size as interdependent; having affects on the organization that typically characterize growth. The older or larger an organization, the more formalized its behaviors and norms will be found to be. (p. 227 & 233) Interestingly, he describes age as having a particular affect on structure in that the industry conditions that existed when an organization was founded constitute important initial conditions for its evolution and development. (p. 228-229) Size has a specific impact in the way increasing size forces differentiation and specialization of units within and across the organization, with a correspondingly more elaborate structure. (p. 230-231) And, related to such elaboration, the average size of those differentiated units increases as the overall organization grows. He attributes this increase in average unit size to the increased possible span of control possible for managers dealing with more specialized functions. (p. 232).

Mintzberg points out that the influences of age and size on an organization are discontinuous. "An organization grows more or less continuously, but its structure is changed only in discrete steps." (p. 232) As a result, as organizations grow and age, they pass through a series of structural stages; "changes in kind rather than degree." (p. 241)

Most organizations start out as nonelaborated organic structures, typically either craft-based or entrepreneurial in nature. In the craft structure, coordination is achieved through standardization of skills. "The administrative component of the craft organization is small and unelaborated, comprising a few managers who work alongside the operators." (p. 242) As the organization shifts toward and entrepreneurial structure, the change brings with it a single specialized division of labor; "the entrepreneur making all the important decisions himself." (p. 243) The entrepreneur personally fulfills the organizational roles of technostructure and middle-line management.

As they age and grow, they begin to see more forms of specialization beyond the simple entrepreneur. Formalized procedures and structures eventually emerge as a bureaucratic stage for the organization. "Just as a pupa sheds its cocoon to emerge as a butterfly, so also does the organization shed its organic structure to emerge as a bureaucracy." (p. 241) The process of creating a bureaucratic stage organization involves iterations of increased job specialization followed by more elaborate regulatory mechanisms; management hierarchies and standard procedures. As the cycles continue with increased growth, the division of labor between defining work and carrying it out results in the formal emergence of the technocratic suborganization. (p. 244) Adherence to the rules of these procedures becomes a driving force in the organizational structure and management as different components of the work are driven farther and farther apart by the growing organization.

A divisionalized stage is encountered when the bureaucracy grows and ages to the point that a functional or product-based grouping is required in order to segment the organization into manageable units to maintain effective span of control or geographic coverage. "Like the amoeba, the overgrown functional bureaucracy split(s) itself into distinct entities, or divisions." (p. 246) Each distinct division is likely to operate as a bureaucratic stage organization reporting to a common shared headquarters structure that imposes its own form of bureaucracy on top of the entire structure. In this way, continued divisional breakups allow the bureaucratic stage to endure virtually indefinitely at the operating level.

Finally, Mintzberg describes a transition to a matrix stage that he sees as transcending the divisionalized form and returning somewhat to the organic. The most significant shift is the removal or loss of the coordinating headquarters. Interdivisional communication and coordination is opened up and peer-to-peer management becomes the norm. Organizational details are adjusted to suit unique needs within the organization.

Organizations need not pass through each of these stages during their life; but Mintzberg sees the trend as being clear enough that the exceptions typically further illustrate the rule. Mintzberg emphasizes that these stages and structures "do not seem to change continuously or in linear patterns; it seems more accurate to describe them as passing through distinct transitions." (p. 248)

Technical System. Like Daft's use of organizational technology as a contextual dimension, Mintzberg defines the technical system as a contingency factor. Citing Hunt, he describes three basic dimensions that make up the technical system in the organization: 1) the operations technology that transforms the inputs into the outputs, 2) the regulation or knowledge dimension through which operators control their work, and 3) the sophistication dimension which describes the complexities and intricacies of the work being performed. (p. 250-251)

He discusses these dimensions in the context of the scale of the organization's production processes; ranging from unit or small-batch production, through various forms of mass production, up to intermittent and continuous-flow process production. Different scales have different impacts on the structuring and performance of the organization. Craft-like unit production organizations will typically see very little control at their strategic apex and through their middle line levels. Issues and control problems are often worked out at the line level. As scale increases toward mass production, middle management takes on increasing control as the length and complexity of the supply-chain lengthens. Problems and issues are less often visible at the local work level. "Mass standardized production le(ads) to formalized behavior, which le(ads) to all the characteristics of the class bureaucracy." (p. 256) The increased scale represented by a growth to continuous process production further expands the need for control and increases the involvement of Mintzberg's strategic apex.

The increased involvement of the strategic arm of the organization often creates the need for the lower levels of the organization to become more flexible and self-sufficient in order to prevent the organization from being paralyzed by its complex hierarchy. Such process producers are generally seen to become more "organic in nature" (p. 259); allowing Mintzberg to reemphasize his regularly stated position that as organizations increase in size and scope, the often come full circle and take on characteristics of smaller more agile organizations in structure and behavior. (p. 258-260)

Mintzberg combines these three dimensions of the technical system into several observations about their impact on organizational structure. First, "the more regulating the technical system, the more formalized the operating work and the more bureaucratic the structure of the operating core." (p. 261) While he describes knowledge and training as key regulators for simple small organizations, such intangibles do not suffice for building more complex technical systems. These larger system will always increase formality and bureaucracy in response to the need to control the growing technical system.

Second, "the more sophisticated the technical system, the more elaborate the administrative structure." (p. 262) His logic is based on the increased specialization of skills needed to support the more sophisticated system. Such specialization drives organizational growth and the administrative support required to support that growth; and it increases the need for coordination among increasingly isolated professions working in separate specialties. The liaison activities necessitated by such isolation also increases administrative ratios.

Third, "automation of the operating core transforms bureaucratic administrative structure into an organic one." (p. 264) As the production process grows and increases in complexity, increased automation offsets some of the unskilled and less skilled workers; increasing the proportion of the organization staffed by professionals. These professionals typically require less administrative control,

and the organization shifts toward more empowerment and distributed control. The level of formality and bureaucracy peaks just prior to this point.

Environment. Mintzberg includes four concerns in the environment factor: 1) stability, 2) complexity, 3) market diversity, and 4) hostility. (p. 268-269) The level of stability in the environment has an extreme affect on structure because, in a stable environment there is high predictability, allowing an organization to shield its internal operations from outside external influences. Standardized procedures can become institutionalized throughout virtually all operations, and bureaucratic norms set in. When stability is lacking, more organic forms are required so that the organization can better respond to changes in the environment.

Mintzberg describes how these organic forms will develop in environment lacking stability despite the contrary factors of size and technical system that tend to push the organization toward bureaucracy and standardization. In essence, the dynamism of the environment will override the bureaucracy-inducing contributions of these other factors. (p. 272) The complexity of the environment will drive the organization toward decentralization as decision-making is moved toward the most dynamic parts of the environment. Such decentralization will drive certain components of the organization's functions toward professionalism, as the control structures shift from standardization of work to standardization of outputs, skills, and eventually professional mutual adjustment.

Mintzberg sees the emergence of bureaucratic and organic components to organizations in complex environments; both with centralized and decentralized components; each piece working to optimize its piece of the mission. (p. 276) The permutations of such components, and their interrelatedness, can give rise to an extraordinary range of instantiated organizations.

Market diversity, as an environmental factor, will affect organization structure because decentralizing into multiple divisions will be common for organizations faced with highly diversified markets. It is the presence of common critical functions across these logical divisions that tends to impede such divisionalization. (p. 278) Again, the friction between decentralization driven by the market, and centralization driven by the need for common functions, gives rise to a host of actual organizational forms. Hostility in the environment will, at times, act to overcome this friction. "Extreme hostility in the environment drives any organization to centralize structure temporarily." (p. 281)

These factors create an ebb and flow to the organizational structure driven by changes in the environment; particularly through market shifts and hostility. At any given time, these factors will dictate some combination of four basic environmental responses based on combinations of complexity and stability:

1) The parts of the organization responding to complex stable environmental factors will tend to be both decentralized and bureaucratic. Control will be through standardization of positions, reporting relationships, and job descriptions.

2) Portions responding to complex dynamic environmental factors will tend to remain decentralized, but shift from bureaucratic to organic structures. Controls will shift toward professional mutual adjustment as standardized positions and jobs lose their ability to keep pace with the dynamics of the environment.

3) Those responding to simple stable environmental factors will tend to remain centralized with highly bureaucratic structures. Control is achieved through standardization of work processes; particularly inputs and outputs from and to the decentralized components.

4) Simple dynamic environmental factors will lead to organization responses that remain centralized, yet shift toward direct supervision controls as standardized work processes fail to keep pace with the dynamic environment. As needs shift, supervisors directly influence the responses of organizational members.

Because the shifts implied by these types of responses will often require conscious reorganization to achieve, the changes seen in the organization will be intermittent and sporadic, even though the changes in environmental factors can be continuous. As a result, different portions of the organization will exhibit different levels of functionality and dysfunctionality at any time depending upon how well the current structure matches the demands of the prevailing environmental factors.

Power. Mintzberg sees power as a interesting factors in understanding organizational structure because it often leads to organizational responses that don't appear optimal for working toward the intrinsic mission of the organization. He primarily discusses power in the forms of controls placed on the organization from external sources. The two primary forms of such controls are the ability to define the leadership staff and the ability to impose external standards. Such controls, often targeted at the top of the organization, have affects that permeate the entire organizational structure.

"External control forces the organization to be especially careful about its actions." (p. 290) Formalization will tend to increase as the organization responds to demands for increased rationality. Such formalization and need for control will tend to cause increased centralization of functions, even those that would be better served by remaining decentralized in response to other environmental factors. Also, external pressures are often just as likely to reflect organizational "fashion" as substance, creating changes in the organization that are actually unnecessary and often dysfunctional.

Intermediate Variables

The structural dimensions defined above can be used to describe organizational configurations as they are found to actually occur. The contextual and contingency factors then discussed considerations that are seen to drive and determine which from among the many possible structural configurations any particular organization takes on. The structural dimensions, then, define the dependent variables of this organizational model. The contextual dimensions define the independent variables. The actual structure of any particular organization (dependent variables) is contingent upon the context in which it occurs and operates (independent variables).

Mintzberg suggests four intermediate variables that mediate between these independent and dependent variables: 1) comprehensibility of the work, 2) predictability of the work, 3) diversity of the work, and 4) speed of response required. (p. 221-223) He suggest that these four factors can explain how an organization results in its given structure (dependent) given an environment in which to respond (independent). They help explain, via the work itself, why two different organizational structures can be seen as an appropriate response to the same environmental arena.

These are complex systemic responses to a variety of simultaneous dimensions. After introducing systems theory in the third chapter, this breadth component will address the forms and results of such mediation in the fourth chapter.

Chapter 3

Systems Theory

Introduction

This chapter explores the major writings in systems theory, focusing on the ability of systems thinking to draw together the array of dimensions and variables discussed in the previous chapter into a coherent model of organizations that can cover the broad array of formal and informal organizations described in the literature. The structure of this chapter is modeled on the writings of Bertalanffy (1956), Laszlo (1972b, 1975), Rapoport (1986), Boulding (1956), and Ackoff (1960, 1995). Of particular interest here are the various issues and concerns that surround discussions of highly complex systems that can exhibit self-organizing behavior, and how such behavior can explain the interaction of the organizational variables developed in the previous chapter.

General Systems Theory

Boulding (1956), describing what for him was a very contemporary problem, outlined the growth and expansion of fields of knowledge in various sciences coupled with an increasing need to specialize in order to be successful in the practice of any single science. He described a growing need, felt by many across multiple disciplines, to somehow systematically identify a set of constructs that could be used to challenge and communicate information across disciplines; some set of descriptions "somewhere between the specific that has no meaning and the general that has no content." (p. 11)

Bertalanffy (1956) states that "it seems legitimate to ask for a theory, not of systems of a more or less special kind, but of universal principles applying to systems in general." (p. 1) Such a set of constructs, or framework, would enable interested parties to identify similarities and overlaps across multiple disciplines; allowing disciplines to benefit from the conceptual progress made by others.

Likewise, such a cross-discipline comparison might identify gaps and opportunities in one's own discipline that might otherwise take extensive time or effort to identify, often after pursuing countless dead-ends.

Boulding's alternative was a scientific world in which increasing specialization and detail drove practitioners farther and farther apart. "One wonders if science will not grind to a stop in an assemblage of walled-in hermits, each mumbling to himself words in a private language that only he can understand." (p. 12)

Bertalanffy (1956) describes General Systems Theory as "the formulation and derivation of those principles which are valid for 'systems' in general." (p. 1) Bertalanffy, and others at the time, were noticing certain structural and content similarities across a variety of scientific fields. They attributed many of these similarities to the fact that each distinct field was a system of knowledge, and they shared a belief that there should be common elements of structure and theory within any system. "The isomorphy we have mentioned is a consequence of the fact that, in certain aspects, corresponding abstractions and conceptual models can be applied to different phenomena." (p. 2)

Many of the aims espoused for General Systems Theory were pedagogical; tying the cross-systemization of the sciences to support and integration of fields and thus better science education. But in terms of knowledge content, the early aim was to develop unifying principles that would cut across disciplines; allowing concepts to flow across boundaries to enhance knowledge. Constructs so shared could help answer questions, as well as point to questions as yet unasked. "This theory brings us closer to the unity of science." (p. 2)

Characteristics of Systems

Ackoff (1960), taking a holistic approach, defines a system as "any entity, conceptual or physical, which consists of interdependent parts." (p. 1) He goes on to emphasize that system theory is mostly interested in systems that can display activity; or concrete physical realities. "A physical entity is considered as a system if the outcome of its behavior is conceptualized as the product of the interaction of its parts." (p. 2) Ackoff later (1995) defines a system as any combination of components, the decomposition of which would remove its essential defining features.

More mathematically, Laszlo (1975) offered a means to specify a system through its parameters and relations, each of which could be described by a domain of values of a set of attributes. Relations among those attributes constitute the functions that are available and supported by the system. The structure of any such system could be described by reference to the system itself, any of its subsystems, or to he suprasystems of which it is a part. Everything outside the of these descriptions would constitute the system's environment.

Sutherland (1973) describes a categorical view of systems thinking that avoids Ackoff's holistic simplicity without resorting to Laszlo's mathematical abstraction. Categories such as emergence, hierarchy, feedback, entropy, and equilibrium all contribute to the heuristic toolset of the systems theorist. (p. 50)

The General Systems Theory can itself, then, be described as a system that can be discussed at all of these levels of detail; whether holistically as an endeavor to understand systems generally; categorically as a delineation and naming of each identified isomorphy that contributes the main findings of the field, or abstractly by formalizing the logic with which such constructs can be defined. Systems thinking can take place, and be fruitful at any of these levels.

Barriers to Systems Thinking

Laszlo (1975) identified six factors blocking the development and acceptance of General Systems Theory: 1) intellectual inertia, 2) organizational inertia, 3) semantic confusion, metatheory confusion, the fallacy of generalization suspicion, and 6) the fallacy of generality suspicion. Much can be learned about the power and role of systems thinking by looking at the meaning and implications of these barriers.

The barrier of intellectual inertia entails the difficulty of individual scientists and scholars, who have been trained to work in very specific disciplines, seeing the benefits of the generality presented by systems thinking. Might only might they not accurate perceive the value in such thinking, they might actually feel threatened by such innovations that try to extend their knowledge and thinking beyond their narrow comfort zone. "It is unsettling to them to find some general theorists claim to know their field, and indeed offer interpretations of their findings with which they themselves are not familiar." (p. 13)

This inertial barrier grows into organizational inertia when one considers that the structure of most colleges and universities is based on disciplines; and the prestige of their departments is often tied to success in gaining funding for projects and research within their specific disciplines. Such organizations will be reluctant to invest themselves in the interdisciplinary studies implied by systems thinking. Laszlo counters by asserting that departments shouldn't fear such systems thinking. Systems theory finds its value in cutting across multiple disciplines; "it is meaningless if taught as a specialty." (p. 14)

Semantic confusion arises over the use and intent of the "general" in General Systems Theory. Laszlo laments the interpretation, common at the time of his writing, that made "general" a modifier of "system" rather than "theory." (p. 15) The General Systems Theory is a general theory about systems,

not a theory of general systems. Laszlo attributes the source of this confusion to early lectures given by Bertalanffy at the University of Chicago in 1937. Bertalanffy was 36 years old at the time, and had a very limited knowledge of the English in which he was presenting. He used the phrase General System Theory as a literal translation of the phrasing he had used in his own notes in German. "It has probably never occurred to him that the English term general system theory could be read as a theory of an entity called general systems. In German, one could not make such a mistake." (p. 17)

The barrier of metatheory confusion arises because of the two roles that appear to be played by practitioners in the systems theory fields. General systems theorists look at and compare actual systems, mapping and classifying characteristics that are common or parallel across disciplines and systems. They are seeking general properties of actual systems.

Some theorists attempt to go beyond these properties to look for common features and similarities among the general properties of systems. These practitioners are no longer studying systems, they are studying the general theories of systems; or developing metatheories. To fail to recognize the distinction discounts the practical applications and concrete results obtained by systems theorists. "Inasmuch as the majority of systems theorists is very much concerned to investigate some variety of concrete system, the designation of the field as one of metatheory is false" and contributes to the reluctance of many to subscribe to its thinking. (p. 18)

The generalization suspicion is the belief, held by many, that systems thinking entails generalizing the findings of one field or discipline, and imposing those generalizations on other fields or disciplines. The barrier is the fallacy of this belief. It does not seek to impose generalization across fields, but to spot common elements across fields that can be generalized. "It is not a generalized theory, but a general theory." (p. 18) Indeed, Sutherland (1973) emphasizes that systems thinking can, at best, only

arrive at working hypotheses that must subsequently be legitimized through validation within the specific systems and fields being studied. (p. 24) The new knowledge is gained within the specific discipline, not within the systems theory field.

The barrier created by the fallacy of generality suspicion differs from that of generalization. This barrier posits that systems thinking is trying to abstract specific systems into an abstract and general form so that a maximum of constructs and observations can be subsumed under a single general system. It is not actually the intent of systems thinking to identify increasingly inclusive systems. Rather, systems thinking tries to maximize the detail understanding available in very specific disciplines through the application of cross-disciplinary models and constructs that have been identified as characteristic and common to multiple disciplines. "Levels of generality and levels of explanatory detail are inversely correlated: when we have characterized the most general phenomena, we have largely ignored all the concrete specifics." (p. 19)

General systems thinking will only look at generalized constructs to the extent that the disciplines involved in the actual systems studied are attempting to unify and generalize. A general systems theory that can illuminate constructs in quantum theory and in relativistic physics must be equally ambitious in illuminating constructs in the unified field theory sought by physicists. The drive to generalize is in physics, not general systems theory. Systems thinking is often just trying to keep up. This requires systems theorists to create tools that allow systems to be analyzed at various levels of generality. It forces one to consider hierarchies of systems as the actual systems studied unify in hierarchies. It requires some form of meta-systems thinking.

Meta-Systems & Hierarchy

Klir (1975) describes a set of five general characteristics of systems than can be used to define and describe the invariant portions of any system definition:

1. A set of variables that describe the system and a granularity with respect to space-time organization for viewing and manipulating those variables,

2. A description of the system's activity, described in terms of time functions that describe the changes that take place in the system within the space-time frame described in (1),

3. A description of the system's behaviors in terms of time-invariant relationships between past, present, and future values for system variables at appropriate levels of granularity,

4. A state-transition structure for the system that describes the states of system variables and their next possible states within the system's specific space-time granularity, and

5. A description of the variables required for the system to interface with higher-order systems of which it is a part or with which it carries out interactions.

Klir's characteristics describe a meta-system that describes common aspects of all systems. An interesting aspect is the inclusion of space-time granularity as a fundamental aspect of the taxonomy. It allows for multiple definitions of system that, on the surface, might too easily be judged to be the same system.

For example, the system definition describing a human being on the scale of hours is a markedly different system than the one that defines the human being on the scale of years or decades. An organization viewed on a day-to-day basis is clearly a different system than the same organization viewed over decades. A country viewed on a scale of years will be systemically different from the same country viewed from the historical perspective of centuries.

The distinction and difference aren't only level of detail. The focus of the system description is entirely different at the various scales, and completely different aspects of action, behavior, and interaction are important. Klir acknowledges the obvious need to map each of these system definitions to each other, and views the transitional rules or procedures as themselves constituting a system — actually a meta-meta-system — that can be studied. Many fields (e.g. history, economics, anthropology, etc.) actually spend much of their effort studying the potential time-invariance of such meta-meta-systems.

These descriptions of systems, meta-systems, and meta-meta-systems constitute a hierarchy of systems that Klir asserts can ease the study of "such phenomena as growth, evolution, self-reproduction, self-organization, adaptation, and learning." (p. 32)

Types of Systems

Ackoff (1995) emphasizes the importance of systems thinking in understanding complex systems. He offers an understanding of systems dynamics through a model of three types of systems: mechanistic, organismic, and societal.

Mechanical Systems

Mechanical instruments, devices, and machines that may contain an arbitrary number of working components, each representing systems of their own on smaller scales, make up the range of mechanical system. Mechanical systems are characterized by serving some function. They have no purpose of their own, just function. The range of functions might include some that are unintended by the designers of the system; but never does the mechanical system take on a purpose of its own.

Organismic Systems

Organismic systems are individual living beings, made up of myriad physiological subsystems. Many of the component subsystems are actually mechanical systems. Ackoff's example is the human being, a component of which is the respiratory system. This subsystem has a function; respiration. The whole human can be said to have a purpose, or mission.

Societal Systems

Larger organizations of collections of organic individuals are societal systems. The components of the societal system are generally smaller societal systems, or else individual organismic systems: people. Societal systems have purpose. Such purpose is not completely dependent upon the individual purposes of the organismic systems that comprise it.

Ackoff describes the friction that ensues when one looks at the differences in purpose between individual organismic systems and the societal systems of which they are a part. Whether it be variances in purpose between teenagers and their families, employees and their companies, or teachers and their school districts; such differences in systemic levels and purposes can create large dynamics in how organizations function.

Because of these differences, systems thinking must be applied to every situation where systems of different degrees and types interact. An example of such a situation is the case in any of the everyday situations in which educational change is discussed. Whether dealing with conflict between organismic systems: parent-student, student-teacher, teacher-administrator; or between organismic and societal systems: teacher-school, principal-district; parent-school board; differences in purposes and perspectives can result in the cause-effect and feedback loops associated with systems dynamics to be interpreted differently by different stakeholders.

Organizations as Systems

Ackoff (1960) defines an organization as a system that is at least partially self-controlled and that has four specific characteristics: 1) it is made up at least partially of animals, 2) choices of how to act are shared by at least two individuals, 3) distinct subgroups are aware of each other's actions, and 4) the system exhibits some freedom of choice. Only his later definition of societal systems will fit into this definition of organization.

Human Components

The fact that organizations involve humans (Ackoff didn't discuss animals other than humans) may seem obvious, but the implication in Ackoff's definition that the organization is comprised partially, and not wholly, of animals is meaningful. Collections of non-animal components such as equipment and other physical assets can be thought of as a system or not depending upon the relationships and interdependencies between and among the components themselves.

Ackoff used the example of a telephone communication system made up of wires, poles, switch, and telephones. (p. 2) Such a collection of assets is clearly a system, but it is not an organization. Only by adding the employees of the telephone company does the system become an organization. However, the definition of the organization still includes the equipment system itself. They are not relegated to something outside of the organization. They are an integral component of the organization formed. As a result, most organizations can better be described as collections of people-machine systems; rather than simple as collections of people. As a result, an understanding of organization will need to go well beyond the perspectives of sociology or ethnography in order to understand all of the relationships that drive the organization.

Choice Among Individuals

While a single person acting alone or interacting with various equipment and resources would constitute a system, Ackoff asserts that it would not comprise an organization. (p. 2) An organization requires multiple actors, each having sets of choices in how to act.

It isn't necessary for these actors to be grouped or clustered in any particular way; although Ackoff discusses the two ore common systemic arrangements; namely by function or over time. By function, distinct actors in he organization each play a slightly different role in the activities of the organization. Over time, each actor will carry out actions before or after another. In fact, most structural configurations of actors will exhibit aspects of both of these patterns.

Subgroup Awareness

Ackoff's third characteristic is that the subgroups that make up the organization must be aware of each other in some way, either through direct observation or through some form of communication channel. Absent this link, the subgroups can be seen to be a system, but will fail to emerge as an organization. As an organization, the component groups must be able to respond to each other in some way; although Ackoff defines no parameters regarding how functional or dysfunctional such communications and responses must be. He hasn't precluded identification of some very ineffective organizations.

Freedom of Choice

To be an organization, a system must exhibit some freedom of choice over what it does and why. Without such freedom, the system can't be an organization, although it can still be quite functional. Conversely, Ackoff doesn't require an organization to have complete freedom. Organizations will usually be constrained in their choices by some other organizations or by some broader systems of

which they are a part. However, absent any choice, the system fails to come up to Ackoff definition of an organization.

System Variables & Paradigms

Klir (1975) offers a set of variables for delineating and discussing systems of different types from different perspectives.

Open vs. Closed Systems

The first is whether or not the systems have input or output variables in the domain of variables that define those systems. Systems with no input or output variables are neutral systems. Others are known as controlled systems. Controlled systems with output variables but no input variables are closed. Those with at least one input are open systems.

Sutherland (1973) points out that accepting a system as open simply forces an acknowledgement that the system is part of some higher-level system that encompasses it and is responsible for its input. (p. 37) From this view, the environment of any system will be describable in terms of one or more suprasystems.

Scale & Memory

Systems with an infinite number of variables are unbounded. Systems with a finite number of variables are bounded. If the system variables are measurable or observable, the system is material; otherwise it is abstract. If the domain of a variable is finite or countably infinite, the variable is discrete; otherwise it is continuous.

The more precisely variables are defined, the more error must be taken into account when systems described by these variables are discussed. Fuzzy variables can be used to generalize this error into membership functions; describing fuzzy systems. Systems described by only present values of

variables are memoryless. Systems with memory can be differentiated by whether they include values for past, future, or both past and future values.

Determinism & Retrospection

Various relationships can exist between the definitions of inputs and outputs, the independent and dependent variables, for a system. Systems are deterministic if their dependent variables are uniquely defined by their independent variables. They are retrospective if the values of the independent input variables can be determined by looking at their output dependent variables. This combination of effects provides for four system temporal types: 1) deterministic and retrospective (one-to-one), 2) deterministic and not retrospective (many-to-one), 3) not deterministic and retrospective (one-to-many), and 4) not deterministic and not retrospective (many-to-many). Systems that are not deterministic might be understood well enough to be probabilistic or stochastic (some-to-some).

Discreteness

Klir discusses the role of time and other variables in terms of any discreteness or continuity evidenced in the variable being discussed. Available combination discussed include: 1) discrete variables and time, 2) discrete variables and continuous time, 3) continuous variables and discrete time, and 4) continuous variables and time. The types and scale of variables used to define the system can be used to classify those systems as linear or nonlinear.

Linear vs. Nonlinear

Linear systems can be described as being in one of three possible states: static, convergent, or oscillatory. Real-world processes are usually described using the oscillatory state model. They tend to exhibit variability along virtually any dimension studied. Attempts to generalize these descriptions tend to describe the system in terms of convergence toward some idealized static state. In reality, for many

systems, the described oscillatory state is itself already an abstraction from the real system because any description will necessarily omit certain details. The fact is that many systems thought of as linear are actually nonlinear. Non-linear systems exhibit a discontinuity between inputs and outputs - changing inputs a little can have a variety of impacts upon the output, ranging from nothing to enormous. Non-linear systems can be described by four possible states: static, convergent, oscillatory, and chaotic. Most real-life systems are nonlinear, and nonlinear systems can be chaotic. Chaos theory helps to explain the behavior of non-linear systems by describing an inherent order that underlies the surface complexity.

Structural Paradigm

These basic features and characteristics of systems can be used, asserts Klir (1975), to define system paradigms that are useful for discussing and analyzing systems of given types. A paradigm can be generated for any combination of defining system features; although not all paradigms so generated will be useful. After the next chapter looks at organizations as basic systems using some of these characteristics, the depth component of this KAM will more specifically map some of these characteristics — particularly the self-organizing attractors and fractal geometries associated with chaos theory — to the specific subset of organizations in the next chapter: nonprofit voluntary organizations.

Chapter 4

Organizational Systems

Introduction

This chapter explores the major writings on social systems, integrating the organizational dimensions and systems thinking discussed in the two previous chapters as the discussion follows the major types and sectors of organizational and social system types. The structure of this chapter is modeled on the writings of Ahrne (1994), and Parsons (1960, 1971). Of particular interest here are the emergence of common elements for organizations in the government, business, and social sectors. The social, or nonprofit, sector will be the focus of the depth component of this KAM.

Social Systems

Monane (1967) looks at how humans group and operate in social systems that obey principles of systems theory. His idea of social system includes both people and culture; the people combining their actions in various ways while creating and interacting with cultural phenomena and artifacts that make those interactions specific or unique. His focus in describing social systems is the interaction, not the distinct individuals or groups in the collective.

The social system then, in Monane's broadest view, is the interaction of people and cultural artifacts through the sending and receiving of information, both inside and outside the system. Some of these exchanges result in feedback loops; some positive, some negative; that control the overall behavior of the system. Challenges to the overall social system typically result in a tightening of external boundaries or withdrawal from interactions with other systems. Such withdrawal, if unchecked, can allow internal negative feedback loops to drive the system toward disintegration. Typical of social

systems is that few ever totally disintegrate. Rather, "resystematization" entails a new system arising from the near breakdown of another. (p. 5)

The scoping of a social system — the determination of its boundaries — is described by Monane as a crucial decision in any discussion of the system. Scoping entails deciding what people or artifacts are to be considered part of the system, and what parts are to be considered part of the system's environment. The line between the two, the system boundary, can be drawn anywhere depending upon the system to be studied. It is the system analyst, therefore, that defines the system as an entity for study. The choice of which relationships among system components shall be defining relationships is left to the analyst. To Monane then, social systems can't exist *a priori*. The analyst bounds the system for the purpose of analysis. (p. 8)

Parsons (1971) divides the social system into a collection of subsystems so that his subsystems can be responsible for each of the four major functions that he attributes to all social systems: integration, pattern maintenance, goal attainment, and adaptation. The social subsystem is responsible for the integration function, and he attributes this to the broadest society in which the social system operates. Pattern-maintenance, or the defining and keeping of meaning, is attributed to the cultural subsystem; or culture. The behavioral organism is the subsystem responsible for adaptation, because it is individual organisms that detect changes in the environment and respond to them. Finally, Parsons attributes the function of goal-attainment to the personality subsystem. Having tied his definition of organizations to goal-attainment, Parsons is describing a scenario in which organizations, as collectives, can be viewed as a key element in the personality of the society; dictating how it behaves and interacts.

Parsons attributes much of the complexity of the social system to the interactive dynamics of the four subsystems working together. He sees "zones of interprenetration" at the intersections of the

subsystems; areas where concerns and issues overlap and influence each subsystem. They create a fuzziness to the subsystem boundaries that brings back Monane's assertion, at the subsystem level, that the systems analyst defines the system to be analyzed through the delineation and perception of the boundaries to be studied.

Individuals in Social Systems

Monane allows for the boundary between organization and its environment to be fuzzy; finalized in the process of analysis. Parsons illustrates that the same fuzziness is inherent in the definition of subsystems within organizations. To the extent that this chapter will focus on organizations as systems of interactions, and these systems can vary in instantiation from small groups of individuals up to the largest global conglomerates; one must then first look at the role of the individual in creating even the smallest collectives and the factors that result in their gathering into such collectives.

Properly understood, they can then be reassembled in any fuzzy collective according to Monane and Parsons. In the smaller collectives, or large collectives in less robust economies, one must also look at the prevalence of natural human needs as discussed earlier by Matejko (1986). When natural needs for resources and security are not met, advanced organizational purposes are less likely to emerge. (p. 89)

Individual Collectives

Ahrne (1994) describes four systemic conditions that lead to, and determine, types of human interaction in social organizations: 1) affiliation, 2) collective resources, 3) substitutability of individuals, and 4) recorded control.

Affiliation. Affiliation deals with our relationship to an organization; to the organization's recognition of its members and exclusion of others. New affiliates in many organizations receive written

documentation to represent the recognition of their new affiliation; a membership card for many organizations, a marriage certificate for newly married couples, a birth certificate for the new baby. Some affiliations carry with them the expectation that other such affiliations will be excluded. We allow individuals to affiliate in only one marriage at a time. We are citizens of only one nation-state. We rarely join more than one church or fraternal organization. Having a second job is often the exception rather than the rule.

A key dimension of affiliation for Ahrne is whether or not membership in an organization is voluntary or compulsory. In compulsory affiliations, we can be viewed as having our status ascribed to us. In voluntary affiliations — those into which we must put effort — we can be viewed as achieved status. He points out that everyone has at least two forms of affiliation, both of which are compulsory: kinship and citizenship. We are all members of our families and citizens of our states. (p. 10) Such affiliation can change through our lives, but we are always so affiliated.

To Ahrne, citizenship has been a much neglected form of affiliation in sociological theory because the discipline typically discusses and analyzes separate societies. Within the single society being studied, citizenship is usually taken for granted. Also, he laments what he describes as the "prevailing notion" that with changes taking place in modern society, "ascribed status has been replaced by achieved status in determining life-choices." (p. 9) However, he feels that "as long as citizenship determines where you can live, ascribed status dominates social life." (p. 9)

Ahrne discusses the distinction between public and private affiliations, only to dismiss the distinction as not useful. He describes the idea of a private organization as somewhat contradictory. No organization is completely public, in that anyone can join. He uses citizenship as an example of a generally public affiliation that excludes most people in any given state. Likewise, no organization is

completely private, in the sense that it is unknown to the outside world. If public vs. private doesn't work for organizations themselves, Ahrne likewise rejects the distinction for individual affiliations in those organizations. Families, typically considered realms of privacy, are always made up of members who are announced and known. Birth announcements are common in most cultures. While individuals expect privacy within the family, the organization that is the family is always highly public.

Collective Resources. While a collection of affiliation among individuals defines an organization, in at least a simple form, the resources associated with those individuals gives the organization continuity and makes it greater than the sum of the individual affiliations. The long-term persistence of an organization is often recognized by the persistence of its resource base rather than its individual affiliations. Members come and go over time, but the organization exists, and continues to exist, in the collective resources that it gathers and maintains — its property. In fact, Ahrne points out that some organizations are actually built up around the buildings or equipment they have, with members becoming affiliated often in order to gain access to those resources. (p. 12) We join our library, not to be affiliated with other users of the library, but to gain access to the library's collection of resources. Citing McCarthy and Zald, Ahrne points out that the aggregation of resources can actually be a cause for creating a new organization in order to manage the new collective resource. (p. 13)

Ahrne discusses the economic perspective that resources can be viewed on a continuum between public and private. The degree to which a resource is private is related to the extent to which there is an organization that can exclude access to that resource. "Most goods are collective or quasi-public with varying amounts of excludability." (p. 14) Almost no resources are owned or controlled by a single individual. Even personal items that we might at first attribute as private, are largely sharable within our families. Our need for access to such collective goods is what causes us to join the

organizations to which we are affiliated. We can change our affiliations to other organizations to the extent that some of the collective resources can be interchanged with, or replaced by, similar resources aligned with other organizations. Affiliation with the organization will often carry with it obligations to support the maintenance of the organization's resources; either through some form of membership fees or taxes, labor, or other form of obligation.

Substitutability. An organization can exist independent of the specific members affiliated with it largely because of the fact that members can be substituted for each other. Ahrne points out that no organization can exist without a combination of the unity that holds it together and some form of division of labor and tasks. The unity can come from the collective resources already discussed; or from an embracing culture or ideology shared by its affiliated members. The unity is often expressed in specific symbols; flags for countries, coats of arms for families, brands or trademarks for companies.

The substitutability of particular affiliates is often defined quite specifically for an organization in the form of rules of succession; whether substitutes will be found from within the organization or from outside the organization. Such rules will define the hierarchy of the organization, its division of labor, and the authority of its constituent parts.

Ahrne points out that although every organization will have its unifying culture and rules for substitutability, it is still likely that many particular affiliates will disagree with either the culture or rules or both. Affiliation will be based on other factors, such as the desire to access shared resources discussed above.

Recorded Control. Individuals spend most of their lives dealing with their organizational affiliations; particularly those involving family and employment. Ahrne points out, though, that most people actually resist being organized and often fight against the rules defined by each organization for

affiliation and succession. (p. 22) Each affiliate joins an organization in order to achieve personal goals, and those goals might not align with the organization's goals.

By recorded control, Ahrne means the keeping of records or memory regarding an individual's affiliation with an organization. Such recording gives the organization a level of control because accomplishments and activities of each affiliate can be reviewed, compared, rewarded, or sanctioned. Such control can serve to temper the differences between each affiliate's personal goal-seeking activities and their obligations to the organization for the maintenance of collective resources and seeking of goal-attainment.

Such control, Ahrne argues, is not the same thing as the hierarchy or structure of the organization; although much of the structure of the organization can be useful for establishing such control. (p. 22) Ahrne sees control as a "necessary and spontaneous phenomenon in any organization irrespective of its particular structure." (p. 22) In fact, affiliate members will typically desire the organization to maintain such control largely because they, as affiliates, have met, or are meeting, their obligations to the organization and don't want others who do not intend to meet such obligations to be able enjoy the same fruits of affiliation. Conforming affiliates want controls established precisely because they are already in compliance and want to demonstrate the need for controls to monitor and sanction others.

Controls can be established through the structure of collective goods, or through the creation of rituals that embody the rules of substitutability. For property, structure often includes architecture; only those properly affiliated may enter. Rituals control behaviors as a proxy for thoughts; although underlying thoughts go uncontrolled. Presumably those exercising the defined rituals, even if not full believers, are under a certain level of control by the organization.

Sanctions represent another form of post-behavior control available to organizations. Ahrne notes that compulsory affiliations are often associated with the availability of harsher sanctions (e.g. military or police force, imprisonment, execution) than voluntary affiliations that are often limited to expulsion as the harshest available sanction. (p. 24)

Actions of Individuals

Ahrne points out that even though individuals do choose to gather in collectives; collectives can't act, only individuals can act. (p. 28) We often describe an organization acting, such as making a statement, because it is a convenient shorthand for the details of some particular individual person acting as spokesperson making a statement on behalf of the organization after a deliberation and vote by the individuals on the organization's board. Only the individuals acted. The emergent result was an aggregate action, or set of actions, that can be easily attributed to the organization itself.

The flip-side of the fact that only individuals can act on behalf of organizations is the fact that individuals are parts of multiple organizations and so can only give part of themselves to any one organization. The actions in organizations which are actually the actions of individuals, are actually the actions of "persons, but not whole persons." (p. 29) Each individual acting on an organization is "to some extent perform(ing) a personal act" (p. 29) because the action includes that part of the individual who is committed to other organizations.

Understanding the actions of individuals in organizations requires that one considers both of these aspects of the individual. Portions of any action, referred to as "expressions given" (p. 29, citing Goffman), pertain to the actions associated with the organization and the individual's role in it. Other portions that are not necessarily proscribed or dictated by that role, referred to as "expressions given off" (p. 29, citing Goffman), bring out the personal values and beliefs of the individual. Ahrne uses the

expression "organization centaur" to describe this dual involvement of individuals in every organizational act. (p. 30) Parsons (1971) describes the role as a mediation between the individual's parts in the behavioral organism and the social subsystems; an example of his zones of interpenetration. (p. 11)

It is this duality that Ahrne sees as mediating between the role assigned to an individual in an organization and their actual performance of that role. Where the two aspects are aligned, individual actions and attitudes seem in harmony. At other times, where personal values might be in conflict with organizational roles, "individuals do things, but often not wholeheartedly; they even do things that they do not believe in." (p. 31) This personal aspect of organizational involvement must be taken into account whenever one is viewing or trying to interpret the actions of organizations.

With the prevalence of organizations and our involvement in them, it's as though our personal side is along for the ride as we spend most of our time in society interacting in our organizational roles; as organizational centaurs. Ahrne argues that this mode of interaction is the dominant form of human interaction; particularly when the family is considered as an organization. He sees three forms of such interactions: 1) between individuals within the same organization, 2) between individuals in two different organizations, and 3) outside the realm of organization, "but when individual affiliations affect (the) interactions." (p. 32) This third aspect illustrates the importance of organization and affiliation in human interaction, because even in random social situations we are unlikely to be able to completely ignore perceived affiliations such as citizenship, educational level, socioeconomic status, employment, etc.

Our personalities may be along for the ride, and may affect the details of how we act in our organizational roles, but the organizations to which we are affiliated dictate the majority of our social interactions, and most of the details of how those interactions will take place and what results they will achieve. Understanding individuals, then, requires understanding the types of social organizations in

which they collect; just as an understanding of the organization requires an understanding of the individuals that comprise it.

Individuals in Organizations

When individuals join an organization, the organization must work to resolve and harmonize the two centaur aspects of those individuals. Specific organizational actions will vary, but Ahrne describes a continuum on which such actions will fall. At one extreme of this continuum — referred to by Ahrne as the "total allegiance" path — the organization will try to "subsume and transform" individual desires and goals "under the auspices of the organization." (p. 36) At the other extreme — described as "bureaucracy" or "Taylorism" by Ahrne — the organization will work to separate the human element of the individual from organizational activities. (p. 37)

These actions will usually involve adjustments in one or more of the four features of organizational interaction discussed above: affiliation, collective resources, substitutability, and control. Such actions will be designed to increase the stake held by any affiliated individual, such that priority will tend to be given to choices that favor the organization over choices that favor the individual over the organization. Ahrne cites the marital dowry as an example of a transfer of money or goods (i.e., a collective resource) such that everyone's stake in a marriage (i.e., an affiliation) becomes stronger. The result is less autonomy for the bride, and a stronger familial organization.

Ahrne points out that individuals in organizations will tend to retain autonomy whenever substitutes to their involvement are hard to find. The bride loses total autonomy because many other brides are available. Virtually any other woman can be substituted for her in her role. Conversely, when the resources brought to the affiliation are inseparable from the individual bringing them — as we are increasingly seeing today in the emerging knowledge economy — individual autonomy will remain

very high. The organization will be forced to allow for, even encourage, the human personal side of the individual being part of their organizational persona. (p. 42)

To a certain extent then, the human side of organizational affiliates will play a role in actions in the organization. The organization may discourage this, or try to embrace it, depending upon its chosen strategies. Those choices will help determine the level of fulfillment that each individual gets from their affiliation with the organization. To the extent that some human needs remain unfulfilled in the organizational setting, there will arise alternate or unintended forms of interaction. In the broadest sense, these forms will comprise the culture or unofficial side of the organization. In the narrow sense, these forms will include nuisance behaviors that are unproductive and a disturbance to the organization (e.g., sexual harassment, bribery, politics). (p. 45-47)

To the extent that these cultural factors become embedded in the organization, "the human side of the organizational centaur sets limits to demands on action on behalf of an organization." (p. 49) Affiliates can't be made to do absolutely anything. Certain demands from the organization will run against the personal beliefs and values of the individuals in it, and will be resisted. "There is always a tension between organizational demands and the human mind and body." (p. 49) Ahrne describes the reactions of individuals as the interaction of dependence and choice among alternatives; of organizational affiliation as an ongoing rational compromise by individuals. (p. 49)

Organizations must exercise their control over individuals alongside these tensions that exist in their culture. To the extent that such control can be reinforced by the culture; these two perspectives can be brought into partial alignment. Ahrne sees socialization, or the learning of an organizational culture or ideology, as key to each individual maintaining autonomy on their relationship with an organization. (p. 44) Mintzberg (1979) describes the use of socialization to the benefit of the

organization as indoctrination. (p. 98) He describes the need to emphasize indoctrination in organization with dispersed affiliates whose work or participation can't be directly controlled. Ahrne describes the division of labor and assignments as effective control when affiliates aren't disbursed. (p. 45) In either case, both agree that socialization of affiliates can be used by individuals to maintain the informal side of the organization and thus contribute to the autonomy of members, or by organizations to reinforce organizational goals and thus reduce member autonomy. It places an interesting dual perspective on events like the office Christmas part or the spring company picnic.

Social Organizations

Having described organizations as social systems in which frictions between organizational and individual goals play out; Ahrne groups these organizations into four classes that vary according to how they manage their forms of affiliation, collective resources, substitutability, and control: families, states, business enterprises, and voluntary associations. (p. 54) He sees employment as a secondary form of affiliation that is involved, potentially, in all four of these organizational classes, although it is typically associated with business enterprises.

The class of organizational affiliation will affect the flexibility available to the organization. States will be the least flexible because they can't choose their citizens or territories. Business enterprises will be very flexible because they can choose both their employees and the locations in which they operate.

The class of organization will also affect the way in which actions taken among individuals will be perceived. Having dinner with one's family will be perceived differently than dinner with a business associate. A member of an amateur sports team will be perceived differently than the employee of a professional sports franchise. A volunteer in an organization will be perceived differently than an employee of an organization. "Both ownership and employment have a negative connotation in that they

imply doing things for the sake of earning money without an interest in the activity itself." (p. 56) In fact, Ahrne describes all organizational affiliations as having such a split between individual and organizational motivations and commitments.

Kinship, Family, & Marriage

Kinship is a compulsory affiliation; one is born into a family, and that affiliation is never removed. Through marriage one enters into a voluntary affiliation that extends one's family further without removing any of the previous family affiliations. Because it is voluntary, marriage can be undone through divorce; but even in divorce the family affiliation remains (through the use of "ex-" to describe the relationships).

Ahrne points out that "families and kinship are inseparable from the biological evolution of mankind." (p. 57) In parallel with the development of families and kinship, humans evolved a continual sexual receptivity that is unique to humans, and a prolonged dependence of infants that enabled the birth of less developed and mature offspring. While sexual relations certainly occur outside of families, the family is the only organizational type in which sexual relations are part of the defining element responsible for the evolution of the social organization type. Sex forced individuals into collective units; and evolution kept them there.

"With the origin of the family a principle of sharing of resources evolved, a first division of labor." (p. 57) Families were now economic units with property. Members had "rights and duties to contribute to the collective resources of the family and to get their livelihood." (p. 59) This in turn gave rise to the idea of property rights; and the general issue of substitutability of members became the rights of inheritance that allowed parents to pass resources to children. This economic linkage between

generations gave families and kinship a survivability beyond the life of any individual member. Family had become the first full self-sustaining organization type.

Citizenship & States

Today, citizenship is a compulsory affiliation. One can change one's citizenship through significant effort, but one cannot be stateless. Ahrne, though, points out that the relationship we all have with our nation-state is a relatively new phenomena. "State organizations were not originally constituted on individual affiliation." (p. 60) They arose from the growth and extension of families and clans across owned and shared territories. As such communities of relationships grew, they took on significance and importance in their own right, independent of their original extended family roots.

As nation-states matured as organizational units, the need to control shared resources resulted in a shift from affiliation based on simple residence to more formal rights of citizenship in terms of affiliation through succession or affirmation of loyalty. It is through these rules that states are able to control the range of individuals claiming the rights of citizenship. Being broad in scope, particularly with respect to ascribing citizenship at birth, states are left with little control over affiliation. Likewise, short of triumphs at war, states have few options for altering their territory.

Ahrne attributes an "inertia of the state" with these limitations of control on which individuals get citizenship and what territories are included in the state. (p. 62) As a result, states have the ability to be able to do almost anything, and yet often find that their own inertia leads to less efficient or ineffective behaviors. The only power the state holds over its citizens is the authority to use physical force (i.e., police, military). As a result, the ability of a state to accomplish its goals will be tied to the struggle to control its citizens. The rights the citizens take in that struggle will represent a compromise unique to each state. (p. 63-64)

Ownership, Firms, & Employment

The emergence of firm as organizational types has a history dating back about a thousand years. The earliest firms were short-lived maritime ventures, often among relative strangers, that shared collective resources for periods of time before disbanding. Early firms based on family ties tended to be more enduring, and to persist over extended periods of time. As these enduring firms expanded beyond family members, limited partnership firms were established. Eventually, the owners of the firm were less likely to be active partners in its operation, and joint stock companies came into being. Management and ownership of the firm became separated.

As firms grew it became necessary to have workers beyond the firms owners and family. Increased production demanded workers in too great a number to be considered partners or owners; employment became a norm in satisfying building the means of production. "Employment evolved gradually to become a generalized form of voluntary affiliation with wages paid in cash." (p. 65) Because Parsons's (1960) definition of organization included the production of something, and the presumption of a market in which to exchange goods between organizations, he would only at this level discuss organizations. His definition would, at best, attribute pseudo-organizational status to the families and states discussed above. His discussion of organization is tied almost exclusively to the evolution of organization as a "consequence" of the divisions of labor required for production, and the special affiliation known as employment.. (p. 18)

Where early forms of employment such as domestic service or apprenticeship implied a complete subordination of life to the purposes of the employer; employment later allowed for the separation of the individual from the job; enabling employees to enter other affiliations as they desired during their non-working time. The possibility of the Ahrne's duality of individuals in and out of their

organizational affiliations became a common possibility for most people. Employment became the first serious affiliation that didn't attempt to demand complete dominion over affiliates lives.

Compared to families and states, firms have much more flexibility; partly supported by the looseness of its relationship with, and expectations of , its affiliated employees. Firms buy employees time and effort during set periods of time; and so can choose activities for employees to do to meet immediate needs with great flexibility. The ultimate flexibility is that ownership is transferable, or a firm can be moved to a new location. In essence, owners can decide not to be owners anymore without disbanding the entire organization. Ahrne describes such flexibility is unavailable to the family or state. (p. 66)

Membership & Voluntary Associations

Voluntary associations comprise avery wide class of organizations and organizational purposes. Ahrne draws a distinction between "expressive" organizations and "social influence organizations." (p. 68) The former are organizations that generally exist to service their own members; whereas the latter attempt to serve some wider purpose beyond the membership.

Although most voluntary associations attempt to spread their influence over the widest possible areas, Ahrne describes there core capability to exist as an organization as existing at the local level. (p. 69) All such organizations today are organized regionally into local chapters of some form, with districts and regions aggregating control and scope. "The importance of membership participation and the principal equality among members makes the local connection strong." (p. 69) Voluntary organizations can grow into new territories through the recruitment of new members, but they can't themselves be moved. They are directly tied to their members and where their members are; giving them some of the same inflexibility experienced by states.

Ahrne notes that research on voluntary organizations has found that the fluid boundaries of the organization — the ease with which members can come and go generally — creates practical problems in the organization's decision-making processes. "No organization can afford to simply let anyone be present and have a vote; it makes it extremely vulnerable to enemies." (p. 68) This shift changes the character of the organization for many members; and is often accompanied by a growth of the organization itself.

All such organizations, as they grow beyond the startup phase of their initial members, will identify a need to close meetings to outsiders where the identify of attendees and decision-makers can be controlled. Likewise, as an voluntary association continually grows, it inevitably reaches a point where it requires employees to keep it operating effectively. This point carries extreme implications for many members who fear that employees will gain too much control over the content and behavior of the organization; changing the character of activities from idealistic and voluntary to being about earning money. (p. 69-70)

The extreme case of this shift is what Ahrne refers to (citing McCarthy & Zald) as the "hybrid" form of voluntary association; one run by professionals and in which the only involvement of members is the paying of dues. The evolution or avoidance of such voluntary associations, and their aggregation into the social or nonprofit sector of the economy, is the focus of the depth component of this KAM.

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WALDEN UNIVERSITY

Core Knowledge Area Module 3:

Principles of Organizational and Social Systems

AMDS 8322 - Current Research in Organizational Systems

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Specialization: Leadership and Organizational Change
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Annotated Bibliography

The journal articles annotated in this bibliography were selected in order to provide detail coverage of the emerging field of complexity and adaptive behaviors in organizational theory. Some deal with nonprofit issues — a central theme of this depth section — but that was not an explicit part of the criteria used for selecting the topics. The discussion of the applicability of each article to the focus of this KAM is deferred to the concluding chapter of the application component so that each can be mapped to observations and findings of the three case studies outlined in the application component.

Anderson, P. (1999). Complexity theory and organizational science. Organizational Science, 10(3). 216-232.

Anderson lays out an agenda for applying the study of organizations as complex adaptive systems, highlighting a research direction that will stretch the application of complexity science to organizations in ways that will extend knowledge and bring science into alignment with actual experiences in organizations in recent years.

He starts by laying out a quick history to show that the study of complexity is entering an important third wave. The first wave encompassed "an explosion of interest in holism and gestalt theories" (p. 218-219) following World War I. The second centered on general systems theory generally, and cybernetics in particular, "fueled by the success of wartime feedback-control devices" (p. 219) following World War II. This second wave encompassed the generalization of thinking on

systems represented in the writings from the 1950's, 1960's and 1970's described in the breadth section above.

The third, and current, wave involves the recognition that equilibrium plays a significant part in the understanding of the dynamics of any system, and that the traditional linear systems view of organizations having an optimum or primary equilibrium state needs to give way to a more dynamic and complex view. Catastrophe theory explains how shifts in small parameters describing systems can send those systems to dramatically different equilibrium states. Chaos theory explains how dynamic systems that appear to be random are, in fact, quite deterministic. Combined, the nonlinear dynamics of chaos theory coupled with the multi-equilibrium outcomes associated with catastrophe theory provide a working model for how real organizations can be explained to behave and how they might be influenced to change in desired directions.

To Anderson, the model is the concept of complex adaptive systems. "The hallmark of this perspective is the notion that at any level of analysis, order is an emergent property of individual interactions at a lower level of aggregation." (p. 219) He describes four basic elements of complex adaptive systems that he feels have direct implications for the study and understanding of organizations:

1. Agents with schemata. The outcome of any system is presumed to involve the aggregation of the dynamic interactions of agents within the system. These agents, in turn, are presumed to behave according to their own cognitive structures and maps of their environment; their schema. Such agents need not be individuals. Agents in a system can also be organizations, groups, or even coalitions of groups; each with collective schema quite different than those of the individuals of which they are composed.. (p. 220-221)

2. Self-organizing networks sustained by importing energy. Agents in the system are presumed to be connected to each other in such a way that the behaviors of some local agents can influence the schema and behaviors of others. No single agent or collective runs the system; rather, the system self-organizes around these local interactions and changes in behavior. Maintaining such self-organization will always require importing energy. In organizations, such energy is often in the form of new information or knowledge. (p. 221-223)

3. Coevolution to the edge of chaos. Each agent is adapting behaviors while striving to maximize its own payoff function. It's decision landscape is constantly changing and shifting as other agents do the same. Such continual evolution among linked agents drives the system as a whole toward disequilibrium. Rather than become chaotic, such coevolution typically drives power-law equilibrium changes (citing Kauffman) that exist near the point of chaos. (p. 223-225)

4. Recombination and system evolution. Complex adaptive systems are constantly changing their makeup through the departure and arrival of agents. Agents also transform through changes in their schema over time. As a result, coevolution and transformation at the local level drive system level change and evolution. "A fundamental aspect of complex adaptive systems is they allow local behavior to generate global characteristics that then alter the way agents interact." (p. 225)

Anderson discusses external factors impacting upon most organizations today, and points out that they create organizations that are hypercompetitive. Nonlinearity leads to unpredictable behaviors and rapid rates of change as changing behaviors of local agents cascade through organizations. The challenge for organizational leaders is to recognize and encourage these dynamics by introducing and empowering such dynamic change, while removing barriers to change that impede and limit the abilities of local agents to change their behaviors toward self-maximization. Asking local agents to internalize

aggregate organizational goals and objectives runs contrary to their self-organizing roles at the local level; and can be counterproductive.

Barnett, W. P.; Mischke, G. A.; & Ocasio, W. (2000). The evolution of collective strategies among organizations. Organization Studies, 21(2). 325-354.

The authors offer a model for understanding the founding and growth of organizational collectives based on principals of organizational ecology. Their model ties the strategies and structures of the collective organization to the formation and growth rates of those organizations, highlighting competition among collectives for members as the key factor in the model.

Their focus for strategy is on whether an organization chooses to adopt a generalist scope of interest, or a narrow specialized scope. They show that these strategies result in particular blends of collective organizations in given industries or interest areas. In segments where generalist strategies are dominant, few organizations will be seen to be meeting the needs of most interested members. Where specialization is dominant, there will be many organizations needed to adequately fulfill the needs of the available membership. Likewise, the impact strategy has on the number of organizations present will also be paralleled by an impact on the size of such organizations.

The size of any given collective is determined by the number of interested potential members who both find the organization and choose to join it. The authors describe the way in which the likelihood of finding a collective organization can be described using the organization's selected strategy. In any search for an organization based on potential member interest, a more general organization will be identified more often than a more specific organization. Generalist collectives simply subsume a greater number of interest areas under their scope.

In terms of the likelihood of joining a collective once it has been found, the authors describe how potential members will typically join the first organization they identify that satisfactorily meets their need, "even if there is a collective organization somewhere that is even better suited." (p. 327) Since broad merely satisfactory collectives will be more common than narrow optimal ones, potential members will typically join satisfactory generalist collectives more often than optimal narrow ones. The outcome of this social matching process, the authors conclude, is that as organizations allow their strategy to become increasing general, the likelihood of obtaining members increases.

The authors move on to discuss another aspect that affects membership acquisition: contagion. Because the social matching act is inherently ambiguous — meaning that potential members can never be sure they are choosing the right collective to join — potential members are very likely to respond to social cues when making such decisions. Near-joiners will be pulled into the organization proportionately to the volume of joiners. Since collectives using generalist strategies will be found and joined by more potential members, the contagion affect expands this growth advantage in favor of generalist collectives.

The authors then move away from collective growth rates to discuss the affects of strategy and size on the rates at which new collectives are founded. A potential collective member may innovate — create a new collective — if no satisfactory collective can be found during the social matching process. Citing March and Simon, the authors point out that "innovation will not be considered while ever there is an existing collective that can offer a satisfactory solution." (p. 329) They are describing a competition between organizational founding and growth; or, citing Hannan and Freeman, the "classic ecological trade-off." (p. 329) This competition will be especially impacted by the growth of collectives that have

adopted the generalist strategy because their advantage in securing growing memberships will inhibit the founding rate for new collectives.

This impact is mediated by when generalist collectives first appear; a path-dependency. In domains where early collectives form around special interests, the founding rate of new collectives is found to be high. Domains where generalist collectives are founded early, see much lower founding rates for other collectives within the domain. "The ultimate variety of collective strategies in a given domain depends on an apparently minor difference in initial conditions: the arrival time of the first generalist." (p. 331)

Once formed, the authors see the mortality rate for collectives to be low, regardless of strategy, but for different reasons. Large general collectives tend to persist because they are well-funded and embody considerable organizational inertia. Small specialist collectives tend to run on a minimalist approach that makes them low-cost and able to operate with minimal inputs. Both factors lead to the longevity of collective organizations.

The authors end by speculating, admittedly beyond the scope of their own research, on the role that organization mortality might play in their model. There might be domains where specialization of interest is in the long-term best interests of members. There could be long-term corrective mechanisms at work that would disband generalist collectives in favor of specialist collectives. Citing Nelson and Winter, they observe that evolutionary economics would predict such a mechanism. "If mortality works to correct the generalism bias, then historical differences are temporary frictions rather than long-lasting path dependencies." (p. 331)

Allowing for such correction, the authors have presented a solid model for observing and explaining the founding and growth processes surrounding collective organizations tied to the interplay of the general-to-specific variances in strategies adopted those organizations.

Bate, P.; Khan, R. & Pye, A. (2000). Towards a culturally sensitive approach to organization structuring: Where organization design meets organization development. Organization Science, 11(2). 197-211.

The offers present a process approach to organizational design that emphasizes social and cultural dynamics that affect organizational structure. The approach, called "culturally sensitive restructuring," (CSR) includes a four-phased process for intervention in an organization trying to enable major structural change. It attempts to integrate culture, structure, and leadership into a single interdependent framework.

Their view is that the principles of organization design — which deal primarily with the interaction of structural components — is empty without appropriate attention to organizational culture. Likewise, organization development — which works on the social and cultural interactions in the organization — fails to institutionalize change unless such changes are somehow integrated into the hard structure of the organization. Organizational design and development must be integrated so that the hard and soft come together in an emergent and integrated structure; treating structure now in their broadened sense of social-functional interactions.

The first phase of CSR is "cultural framing," the diagnosing and mapping out of the basic problems and scenarios faced by the organization. The emphasis is on creating such framing in public and collaborative ways, resulting in "a public record, for everyone to see, of the vocabulary in which people (are) framing their expectations and aspirations for change." (p. 204) The authors emphasize

culture as an antecedent to structure; and so work to engage emotions and aspirations during the framing process. Organizational commitment to change is at its highest at the end of this phase.

CSR's second phase is "soft structuring," the collaborative working out of frictions and problems in the organization that have contributed to dysfunction and the need to create major change. "The focus during this phase (is) on building up the organization's capacity to manage change, and constructing the social foundations on which the new design (will) be overlaid." (p. 205) None of the changes implemented in this phase are institutionalized. All are considered experiments; things to be tried out to see how they fit both the need, and the culture. An emphasis is placed on short-term small improvements in order to sustain the commitment to change built up in the first phase.

The next phase, "hard wiring," constructs the resultant changes into a new organizational design; formalizing the rules and structures through which the organization will operate. The emphasis in this phase is on institutionalizing the soft factors negotiated during previous phases; design following development. This contrasts the more common change mode "in which the executive team and a group of external advisers design a new structure in isolation, presenting it as a fait accompli to the rest of the organization." (p. 206) This phase runs the highest risk of "becoming derailed" (p. 206) as tough choices must be made on implementation details. The authors encourage reaching agreement on negotiated changes rather than imposed changes; an agreement that requires support from management in order to succeed. Management must be willing to give up control if the emerging culture is to flourish through its own emergent structure.

The fourth phase, "retrospecting," can be viewed as a final phase, or as the feedback loop to the cyclic execution of the entire process; retrospecting leading to new cultural framing. From either viewpoint, the emphasis is upon "looking back and reflecting in a deeper sense about the change

program, where it (is) leading, and what (can) be learned from it." (p. 207) Over the course of the phases, aspirations embodied in the first phase might have changed or altered. This is often the case because the initial phases were carried out while individuals were encumbered by the old culture and organization. Views and needs have likely changed by the completion of the process. It is important that the early results not become a "straightjacket" on the organization.

CSR is a process based on continuous learning and changing; changes always rooted in the ongoing emergence of social order negotiated, not imposed. The changes were driven by "dispersed leadership" (citing Bryman) in which "polycentric decision-making, networking, and ongoing negotiation and dialogue create a form of leadership that is essentially nonhierarchical, and all the more deeply felt and passionately exercised as a result." (p. 207)

Boisot, M.; & Child, J. (1999). Organizations as adaptive systems in complex environments: The case of China. Organizational Science, 10(3). 237-252.

Boisot and Child offer a model for discussing the means with which an organization acts as an adaptive system that must match the complexity of its environment. They develop a three-dimensional Information Space (I-Space) using codification, abstraction, and diffusion as factors that determine the match between organizational and environmental complexity.

The authors begin with a discussion of the unique ways in which humans can face the complexity of their environment, particularly observing our ability to internalize and model the environment. This ability offers us opportunities to enact various portions of our mental models in the real world, thus affecting the environment that we perceive. This feedback loop of interpretation and enactment largely

distinguishes the study of human systems from the study of other systems in the natural sciences. (p. 238)

In addition to containing this inherent feedback mechanism, human systems are also more loosely coupled than their natural science counterparts. Also, human social systems are difficult to simplify using closed systems models that would reduce their complexity for study. Instead, one is left with the combinatorial power of its openness as a degree of complexity that must be included in any study. The only complexity reducing capabilities available to the social scientists are those inherent within the systems being studied; those that have evolved as part of humanity's ability to model and reduce complexity in the environment. This is the essence of their discussion of organizations as adaptive systems. (p. 238-239)

They argue that interpretative systems, such as social systems, have two very distinct ways of handling complexity in their environment: reduction and absorption. Through reduction, the system develops a single representation of the environment and then acts in the variety of ways necessary to adapt a response to that representation. Through absorption, systems develop multiple representations of the environment, sometimes conflicting with each other, and develop a range of responses appropriate to the differences among these interpretations. The former approach represents a specializing adaptation to the environment, while the latter represents a contingency-oriented approach. The efficacy of each approach depends upon the actual environmental conditions encountered while using these adaptive mechanisms.

Because the process described includes a significant feedback loop, the efficacy of either selected approach can become self-fulfilling; and therefore locally maximizing. Boisot and Child argue that such locally maximizing affects result in what social scientists perceive and measure as cultural

differences. Variances in levels of complexity reduction and absorption "represent distinct cultural strategies adopted by adaptive systems." (p. 239) Different cultures will respond to similar circumstances differently depending upon the complexity matching strategies that have developed locally within those cultures. The authors offer a framework for modeling such differences and then illustrate its use by contrasting complexity reaction strategies of local and Western organizations operating the China.

The I-Space that the authors offer as their framework is based on there dimensions of information regarding how the system mediates complexity in its environment: 1) codification, 2) abstraction, and 3) diffusion. Codification involves the reduction of complexity by assigning specific data to categories that can be manipulated and handled with less complexity. They see codification and formalization as highly aligned. "A phenomena is well codified when the basis of assignment is clear and it can be performed speedily and unproblemetically." (p. 239) Related to codification, but different in impact, is abstraction. Abstraction "involves a reduction in the number of categories to which data needs to be assigned for a phenomenon to be apprehended." (p. 239) These two strategies both economize the effort required to process information in a system; they reduce complexity.

Codification reduces the effort needed to categorize information, and abstraction reduces the number of categories that require consideration while codifying. The third I-Space dimension, diffusion, looks at the number of interacting agents that must handle and communicate the information. The transactional structure of the system will depend upon the way data flows among system participants; often measured in terms of the percent of available agents that will interact with distinct data in order to complete a transaction. Transactions involving many agents are diffused; increasing the complexity of the transaction and the systems of which it is a part. "The I-Space thus relates the flow of

knowledge and information within a social system to the structure of the data that act as their substrate." (p. 241)

Boisot and Child ague that there has to be a "goodness of fit" (p. 241) between a culture's preferred approach to knowledge and information flow and the organizational and transactional structures that exist and operate within the culture. Through an in-depth review of organizational practices in modern China, they illustrate that the market capitalism practiced by Western organizations is less effective than the social or network capitalism practiced by Chinese organizations precisely because the Chinese culture and local organizations reduce complexity through primarily absorption techniques, while market capitalism attempts to work through complexity reduction techniques. The result is a mismatch between Western complexity reduction — codified pricing mechanisms, contractual relations, defined bargaining, etc. — and expected and inherent Chinese absorption techniques — extended familial relationships, government particularism, implicit rules, etc. — for complexity reduction.

Resolving such differences will be difficult according to the authors. "The two approaches to handling complexity, reduction and absorption, have developed as cultural responses to the specific conditions of different societies over long periods of time." (p. 250) Each system has adapted to complexity in distinctive ways; both results being highly path-dependent. Each system will exhibit difficulties in adjusting to the behaviors and expectations implicit in the other's model; making the globalization of economic issues a challenge to be played out in the future. The authors suggest three contingencies that will mediate the outcomes: 1) the size of the organizations involved, 2) the selection severity of the environment, and 3) the resource-base needed to enact an organization's preferred environment. All three, in today's globalizing environment and economy, currently seem to favor the Western model. However, the authors warn that the cultural factors underlying these differences may

have unanticipated long-term effects on the level of economic and organizational change that can be sustained.

Burke, W. W. (1997). The new agenda for organization development. Organization Dynamics, 26(1). 7-20.

Burke begins with a look at the profession of organizational development through the lens created by reengineering and downsizing activities in largely American organizations in the past decade. He argues that the effects of both change trends have been largely negative, and acknowledges that the pace and depth of change throughout the economy have largely outstripped the ability of organizational development professionals to keep pace as a discipline.

He sees a need for a new agenda for organizational development practitioners; one that is current and meaningful in the face of organizational and work relationship conventions and changes that have become the dominant paradigms in the past decade. "Rather than become obsessed with reengineering and downsizing, it is more important that practitioners understand and become involved with issues that are deeper, longer lasting, and more critical to the bigger picture." (p. 12) He submits six issues as constituting an effective agenda for organizational development in the future: 1) community, 2) employer-employee social contract, 3) employability, 4) trust, 5) culture clash, and 6) corporate power.

Burke argues that creating and supporting community should be a central tenet of organizational development. He views a sense of community as having broken down in the workplace and society at-large; lamenting the strain this has placed on families as a last remaining aspect of community support for individuals. "Downsizing may hurt victims much more today than a few decades ago when communities

were stronger." (p. 12) The loss has resulted in an isolation in the workplace, and extreme strain on home and family support structures; each of which must be addressed in the future by organizational consultants.

The rise over the past decade of the contingent workforce has brought about significant changes in the employer-employee social contract. In particular, Burke suggests that organizational development must focus on three key aspects that have been altered in the workplace: 1) insecurity brought on by ambiguous expectations in the new arms-reach contractual relationships, 2) the absence of performance feedback that traditional employees could expect from their employers, the new feedback bring reduced to contract extension or termination, and 3) the failure of reward systems to adequately take work performance into account as part of the employment contract. The organization development specialist needs to work to assure that remnants of each of these social contract issues is mediated in some way in the newly emerged contingent workforce relationships.

Tightly coupled with the social contract issue, workforce employability has become an issues for organizational development. As workers have found themselves isolated from the organizations of which they were once a part, the need to maintain levels of training and skill have become increasingly important; precisely at a time when there is increased ambiguity over which party is responsible to provide such training and skill development. Organizational developers need to promote self-career development among organizational participants; working to assure that each participant takes steps, and views events around them, toward maintaining their ability to work in the current — and future — work context.

The organizational development specialist must also work to promote trust in working situations where much of the past basis for trust has been removed or discounted. Organizational models that are

increasingly relying on contracts rather than employment must work to be more open in their dealings among individuals in order to promote the levels of trust that used to be associated with lifetime commitments to an organization. Such openness must also be tied to increased cultural sensitivity in order to reduce the types of cultural clashes that can result from groups being thrust together who would otherwise be apart; common today from the perspective of organizational merging and acquisition, globalization, and contractual rather than organic organizational ties. These fourth and fifth agenda items — trust and cultural clash — lead directly to Burke's sixth agenda item: corporate power. Organizational developers need to focus attention on the one-sidedness of power that dominates the organizational workplace. Some of the very factors that have driven changes in the workplace that now require attention, have actually strengthened the corporate world's ability to make dramatic changes that affect the organization with little or no input and support from organizational members.

Burke's organizational development agenda requires the specialist to look beyond traditional organizational models in order to adapt to the actual organizations that have emerged in the workplace. In those organizations, much of what affects the effectiveness of the organization actually occurs and is driven by factors outside of what traditionally would have been called the organization. Organizational development in the future needs to focus on these supraorganizational issues as their impact continues to grow on organizational outcomes.

Dooley, K. J.; & Van de Ven, A. H. (1999). Explaining complex organizational dynamics. Organizational Science, 10(3). 358-372.

The authors offer a view of complex organizational dynamics oriented toward seeing different forms of dynamics, not as a continuum of complexity from simple to grand, but as a matrix of dynamic

perspectives that result in completely different process and intervention models for organizations of different forms of complexity. The model they offer organizes four different types of dynamical behavior based on the 2x2 interaction of two dimensions: a) dimensionality of the causal system, and b) the nature of interactions between causal factors. Their assertion is that "different observed states of organizations will display different temporal dynamics, demanding different process theories" (p. 359) based on the interaction of these two dimensions.

Low dimensional systems give rise to dynamics that will be describes as either periodic or chaotic. High dimensional causal systems yield colored noise dynamics; those with inherent randomness that is complete (white) or biased (pink). The periodic (low dimensional) and white noise (high dimensional) systems result from causal factors that act independently or linearly. The chaotic (low dimensional) and pink noised (high dimensional) systems result from interdependent or nonlinear causal factor interaction. The authors lament that recent emphasis on chaotic dynamics in the literature "ignores the fact that there are other types of dynamical patterns - periodic, colored noise, and white noise - that are equally interesting." (p. 358)

After developing their model, Dooley and Van de Ven offers implications and examples of its application to managing and changing organizations. White noise, or random, systems imply an organization where the behavior of individuals are independent, where individual and collective action is uncoordinated and uncontrolled. Also, because white noise systems are path independent, the system contains no direct feedback where its behavior can be affected by its own history. Few organizations are found in such a state; almost always constrained in such a way that would bias their randomness, giving an organization characterized by pink noise.

Pink noise dynamics imply an organization operating under some form of constrained randomness. As a result, most organizations will be describable using such a model. In such a system, "the presence of global feedback and/or constraint would tend to greatly reduce the dimensionality of the system." (p. 365) The friction between an organization's hierarchy down which policy and standards propagate, and the likelihood that individual directives will be altered or revised at the local level, contributes the randomizing yet constraining dynamics that drive behaviors.

Organizations in which the dimensionality has been reduced using constraining controls, and in which interactions remain nonlinear, will see dynamics driven toward chaos. If the interactions can be made more independent, or more linear, the chaotic dynamic can be shifted toward periodicity. Although periodic and chaotic systems will exhibit widely differing behaviors, the authors advise against being "fooled" by such differences. "Just because chaotic dynamics and periodic dynamics are far away from each other in terms of implications does not mean that they are far away from one another in terms of causal theories, or organizational stories." (p. 366)

The authors' stated purpose is to challenge organizational researchers to further develop models that can align such thinking with actual observed behaviors in real-world organizations. "Organization researchers must move forcefully in the direction of developing generative models that capture not only complex, nonlinear dynamics, but also the dynamics of randomness." (p. 370) They point to Statistical Process Control (SPC) as such a a current model and tool. SPC effectively measures and monitors a system's desire to shift between periodic and chaotic dynamics and behavior. (p. 364) They argue for more tools, and more research into these issues.

Frank, K. A.; & Fahrbach, K. (1999). Organization culture as a complex system: Balance and information in models of influence and selection. Organizational Science, 10(3). 253-277.

The authors look at culture in an organization, primarily viewed through the social-psychological principals of balance and influence, as a primary contributor to the complexity of behaviors and actions seen in the aggregate organization. They "develop models of intraorganizational processes through which actors' interactions and sentiments become interrelated" and the way in which such interactions define systems that are complex. (p. 253)

Describing the system defined by their models as a balance and information system, they focus on "two fundamental principles of social psychology that link actors' interactions and their sentiments:" 1) actors seek balance that they achieve by modifying their sentiments to match those around them or by altering which actors they interact with, and 2) actors' sentiments are affected by the information and knowledge they gain through their interactions with others.

Frank and Fahrbach contrast their models with other sociologically based explanations such as contingency theory and open systems theory. These models focus on external factors as drivers of cultural and organizational change. While acknowledging the importance of understanding the permeability of the boundary of the organization, they question whether these schools of thought properly "address the mechanisms through which actors translate effects external to the organization into changes within the organization." (p. 255) They are more interested, not in the permeation of the boundary itself, but in the processes by which the boundary of the organization is permeated.

They see such a process in the balance and information factors associated with each individual's involvement in the organization. "In this sense, each individual potentially functions as a gatekeeper or a boundary pressure point." (p. 256) The organization, in aggregate, doesn't respond to external factors.

Rather, each individual in the organization reacts to the information available in the environment — both internal and external — through the selection mechanisms of seeking balance after being perturbed by that information. Individuals not directly exposed to such external contingency factors are still influenced by their direct interactions with other individuals who have been so perturbed.

Thus changes to the system's environment can drive the system out of equilibrium. Self-organizing balancing behaviors by individuals in the organization will bring the system back to equilibrium; either by quickly returning to its original stable state, or 2) or entering a state in which the system continually changes within a bounded or periodic stability. The authors are primarily interested in the dynamics of the latter case.

They offer a series of differential equations, each representing increased model complexity and, therefore, greater alignment with actual organizational observations. The terms of the equations model the interactions among organizational actors; their sentiments in terms of values, attitudes, beliefs, and opinions; and probabilities or likelihood that interactions will alter the sentiments of individuals in the interactions. The more advanced models emphasize the strength of actor sentiments before the interactions, and limit the impact each individual interaction can have on changing the sentiments of any particular individual. "This process represents a natural occurrence whereby the actors have moderate influence over one another as they share new information with each other, and then their sentiments subside into their asymptote, neither actor having much influence over the other in the absence of new information with which to persuade the other." (p. 262)

Their models illustrate interesting outcomes that arise during the interactions of individual actors across an organization that has been perturbed by some external factor or information. In particular, organizations that appear to be highly homogenous with respect to actor sentiments and actions prior to

being perturbed are more likely to shift toward destabilizing extremes during their recovery of equilibrium. Common sentiments in these situations act as self-reinforcing behaviors that spiral toward the extreme. More heterogeneous organizations exhibited greater stability, and a wider diversity of equilibrium states available. This was particularly true of organizations with "bridging" actors; those who held middle-ground sentiments between the various extremes represented in the organization.

The diversity of equilibrium states available to these heterogeneous organizations represent organizational learning as one might expect it to appear in these models. Organizations demonstrating such a capability to learn, seemed to have more options for thriving under the authors' model. They suggest further research emphasizing the role of individual actors as mediators of external contingencies and perturbations in order to translate the predictions of these models into management models for organizational change.

Garvin, D. A. (1998). The processes of organization and management. Sloan Management Review, 39(4). 33-50.

Garvin offers two specific reasons for his preference to study organizations and management activities from a process perspective: 1) "a process perspective gives the needed integration, ensuring that the realities of work practice are linked explicitly to the firm's overall functioning," (p. 34) and 2) processes emphasize links among activities, "showing that seemingly unrelated activities … are often part of a single unfolding sequence." (p. 34) He proceeds to offer a typology of organizational processes that he views as helpful in studying and understanding modern organizations.

Garvin's typology places every process into one of three categories: 1) work processes, 2) behavioral processes, and 3) change processes. As the name implies, work processes focus on

accomplishing the work of the organization. "Organizations accomplish their work through linked chains of activities cutting across departments and functional groups." (p. 35) These will consist of operational and administrative processes, primarily different in their types of output and audiences. "The two are frequently considered independent, unrelated activities, even though they must be aligned and mutually supportive if the organization is to function effectively." (p. 35)

Garvin observes that many aspects of modern organizations make integration of these two aspects of work processes difficult, including "complexity, highly differentiated subunits and roles, poor informal relationships, size, and physical distance." He argues that these mediating factors have a greater impact on the functional and hierarchical structure of an organization, and that studying processes independent of structure allows one to study the real work of the organization more closely.

The study of behavioral processes "focuses on ingrained behavior patterns" (p. 37) in the organization. The processes often underlie the success or failure of operational work processes throughout the organization. He illustrates aspects of behavioral processes using decision-making, communication, and organizational learning processes as examples. They share in common the fact that each is typically made up of a set of behaviors that is learned informally "through socialization and on-the-job experience" (p. 37)

Garvin emphasizes the "simultaneous, multilevel quality of decision processes." (p. 38) After discussing models that attempt to reduce management decision-making to a series of stages, he comments that such models are "unable to capture the richness of the process: the range of interlinked activities, with reciprocal impacts, that were unfolding at multiple organizational levels." (p. 38) Understanding an organization's decision-making requires an understanding of the structural and strategic context in which through which this multilevel process plays out; the organization's goals,

values, and reward systems. While behavior processes show great autonomy and persistence, it is through these dimensions that decision-makers can have great influence over the direct and impact of behaviors throughout the organization.

An organization's communication processes involve how individuals throughout the organization share data and information, and how they agree to agenda priorities and resolution of issues as they conduct their work processes. "Like decision-making processes, they reflect unconscious assumptions and routines and can often be identified only after repeated observations of individuals and groups." (p. 39) Analyzing and understanding such processes requires a multidimensional approach that (citing Schein) includes frequency and duration, direction, triggers and flow, style, level, and depth. It is through modification of these dimensions that managers can have the greatest impact on the actual communications that take place throughout the organization.

An organization's learning processes rest "ultimately on the development of shared perspectives" or "mental models" (p. 39) As with decision-making and communication processes, Garvin points out that learning must cross the organization in order to be effective. It "is distributed throughout the organization, unfolds over time, and rests on a few critical subprocesses or routines." (p. 40)

Through these three examples, Garvin illustrates that behavioral process are best managed as organization-wide processes, not specific individual processes that can be assigned or delegated as work processes can. They "are lengthy, complex and slow to change. They involve multiple, often overlapping stages, engage large numbers of people at diverse levels, suffer from predictable biases and perceptual filters, and are shaped by the administrative, structural, and strategic context." (p. 38) While complex, they "can be characterized along a few simple dimensions that managers can review and alter

if needed" (p. 39) making them amenable to management control and influence; just not in the way traditional management theories might predict. They require extensive systems thinking.

Garvin's third category of processes, change processes, involve activities that are "explicitly dynamic and intertemporal." (p. 40) Each change process is characterized by the presence of some initial set of starting conditions, a desired or functional set of ending conditions or outcomes, and a transitional process for getting from the initial to the final conditions. Change processes themselves will be either autonomous or induced.

Autonomous change proceeds along its own unplanned or unintentional dynamic and includes such major changes as a product-market lifecycle or biological evolution. Such changes are unplanned, and seem to follow their own logic and pattern that is not yet understood completely. Induced change, conversely, only occurs when planned and executed intentionally. Such changes include product development and introduction, or the desire to alter the reporting structures of an organization. Whether autonomous or induced, much research is focused today at the way in which change can be seen to be "slow incremental evolution or alternating periods of stability and revolutionary change." (p. 42) The difference might be fundamental, or might be simply a factor of the scale of time used to make observations.

A process view of organization forces managers to adopt different attitudes towards their own roles in the organization. Processes cut across functional and structural boundaries; the very boundaries that often define the limits of managerial control and responsibility. As a result, Garvin advises that managers work to promote three management processes; more as organizational competencies than as individual responsibilities: 1) direction-setting processes, 2) negotiating and selling processes, and 3) monitoring and control processes. These managerial processes involve a shared perspective on

involving players throughout the organization based on knowledge and respect for the organization's communication patterns, power structures, and sensitive relationships inherent in the complexity of the organizational processes described above. "They are the essence of the manager's craft." (p. 45)

Mintzberg, H.; & Westley, F. (2000). Sustaining the institutional environment. Organization Studies, 21(0). 71-94.

In this article, the authors take a look at the role of senior managers. The specific case studied, Greenpeace, offers direct insight into the management of large nonprofit organizations; but the authors see ideas and concepts that generalize well to the management of any large organization.

The authors describe a segment of a study in which they personally observed senior managers at a number of large organizations for one day each in order to study their actions and impacts on the organization. In this article, they describe the days of two senior managers at Greenpeace. They contrast Greenpeace, as a nonprofit organization, with other organizations by describing it as non-owned, but "formally controlled by a self-perpetuating or representative board." (p. 71)

Key to their analysis is that Greenpeace is a voluntary organization. "Voluntary organizations are missionary and value-driven." (p. 71) As such, the organization faces particular challenges in engaging and keeping the large volunteer organization on which it is totally dependent. Doing so requires that the institution represented by the organization — the mission and values for which it has come to be understood and seen — be supported and maintained. Where senior managers usually have to deal with the maintenance of what the authors refer to as the "physical organization," — the facilities, programs, and operations — there is also a great need to manage the institutional aspects as well.

In their observation of these two individuals at Greenpeace, the authors observed that their daily agenda was typically full of physical organization issues and meetings. However, their observations noted that most of the day was, in each case, was actually spent on institutional issues; meetings, phone calls, and correspondence devoted to building and maintaining relationships among constituents. The nominal purpose of many interactions were physical; and yet the resultant interactions often worked toward fostering beliefs and values that would further support the institution as a whole.

The authors conclude that institutional support is an often neglected role for senior managers in large nonprofits; and possibly in large organizations generally. They suggest further research on this topic, and suggest that we look beyond many of the operational management tasks — doing, planning, acting, politicking — described in the literature today at the deeper institutional meanings and implications.

Morel, B.; & Ramanujam, R. (1999). Through the looking glass of complexity: The dynamics of organizations as adaptive and evolving systems. Organizational Science, 10(3). 278-293.

Morel and Ramanujam observe that it has become a "self-evident fact" (p. 278) that organizations should be viewed as multi-part interacting systems that are continually adapting and evolving. They offer the multidisciplinary field of complex systems theory (CST) as a tool for understanding the implications of such an assessment on organization theory. They begin with an overview of CST and its various perspectives, before focusing particularly on four aspects of CST: 1) complex adaptive systems, 2) self-similarity, 3) self-organized criticality, and 4) self-organization.

"Like organizations, complex systems are difficult to define but easy to recognize." (p. 279) CST takes a fuzzy set approach to understanding system complexity; treating all systems as, in some

sense, complex. No firm boundary between complex and non-complex need be defined. Many and any criteria can be used to rationalize a description of complexity in a system. The authors, though, focus attention on two commonly used properties: 1) large numbers of interacting elements, and 2) emergent properties.

With large numbers of interacting elements, complexity is usually associated with feedback mechanisms among elements, and nonlinear dynamics in their resulting interactions. Systems that exhibit more of these characteristics will be viewed, by CST, as more complex. Different systems will be perceived as complex in different ways depending upon the combination of these factors in the fuzziness of their inclusion in the set of complex systems. This definition doesn't preclude even systems with small numbers of interactions from being complex if the inherent feedback loops can drive nonlinearity; the paradigm simply doesn't expect it as frequently or easily as with large numbers of elements.

With respect to emergent properties; the authors look for properties and patterns that are independently observable and empirically verifiable. The appearance of such properties is attributed to the collective behavior of the components of the system. Continuing the logic of defining membership functions for fuzzy systems sets, the authors associate higher complexity to emergent properties where the "origin is mysterious and cannot easily be explained" (p. 280) by looking at the individual components of the system.

Morel and Ramanujam point out that many of the characteristics they discuss are often associated with chaos theory. However, they argue that chaos is not a useful paradigm for discussing fuzzy complex systems. Chaos is oriented toward discussion of nonlinear systems with a high sensitivity to initial conditions. "Chaos suggests that simple models can have very complex dynamics." (p. 280) Conversely, CST "suggests that complex models may exhibit very simple dynamics." (p. 280) The

shared perspectives of interaction units, feedback loops, nonlinear dynamics, and emergent properties should not preclude us from seeing the important distinctions between these two related fields. The authors argue for using complexity as the key paradigm for understanding organizations over chaos. Having so argued, they move on to specific CST paradigms that have applicability for modeling and understanding organizations..

As complex adaptive systems, complex systems are often composed of interacting adaptive agents. This is very much the case in the study of organizations, and so principles of complex adaptive systems can be used to model and understand organizational phenomena as well as their likely self-organizing or emergent behaviors. A weakness that the authors point to in applying complex adaptive systems models is that the adaptive behaviors of principle interest are actually modeled as input to the system. "The adaptive nature of the agent is what (we) would like to 'explain,' not assume." (p. 281)

Next the authors turn to self-similarity and fractals. "Self-similarity means that at some level of abstraction, the system exhibits invariance under a change of scale." (p. 281) Complexity doesn't require all characteristics to exhibit such invariance, but going back to their fuzzy set notion of complex systems, increased self-similarity will be strongly correlated with complexity. Findings in the study of fractal geometry indicate that such self-similarity can be based on very simple dynamics and yet combine into systems of extreme complexity and uniqueness.

In turning to self-organized criticality, the authors point out that systems of increasing size are often seen to also increase in complexity. Self-organizing criticality is an emergent property of systems that seems to correspond with dramatic increases in complexity. It allows that changes or feedback in a system can collect or accumulate through long periods of relative system equilibrium only to be suddenly thrown into disequilibrium and dramatic change. The system exhibits points of criticality at which

punctuated and sudden change can occur unpredictably. Such periods of dynamic change occur with a frequency that is inversely proportional to the size of the system activity — the so called 1/f law. The authors call for further research in order to understand why all systems exhibiting self-organized criticality seem to obey the 1/f law, yet not all systems obeying the 1/f law exhibit self-organized criticality. As a result, changes following the 1/f law can be driven linearly or nonlinearly. They suggest that situations in which systems obey the 1/f law without exhibiting criticality — and many organizational systems and interactions seem to fall in this category — there may indeed be a hidden critical dynamic at play that has not yet been modeled or understood. Gaining an understanding in this area could offer very useful extension to current organization theory through complexity thinking.

The final key perspective the authors suggest for using complexity as a lens for viewing organizations is self-organization; or the dynamic process by which a system operating under its own dynamics spontaneously gets more or better organized. Such self-organizing behavior seems strongly correlated with the number of interacting units in a system. Small systems with few units simply do not exhibit such behaviors. However, as the system grows it increasingly shows a tendency to self-organize. What the authors note as interesting is that, if left to grow unconstrained, most systems will slip into chaos. The dynamic that defines the boundary between maximum self-organization and chaos is poorly understood. The authors suggest that defining and understanding such a boundary, and the conditions that set its relative position for any given type of system, would help organization theorists understand the dynamics that affect the largest organizations: markets, economies, and societies.

The authors promote the use of complex systems theory as a tool for organization analysis. The approaches they suggest are best suited to the study of large organizations where dynamic and nonlinear phenomena are seen or expected; organizations exhibiting emergent or self-organizing behavior. They

suggest initial applications in broad fields studying broad and encompassing organizational views; fields like social and organizational ecology and social network analysis. After applications in these broad fields, they suggest that better models for further application will become available through analysis of the early experiences.

Nadler, D. A.; & Tushman, M. L. (1999). The organization of the future: Strategic imperatives and core competencies for the 21st century. Organizational Dynamics, 28(1). 45-60.

Nadler and Tushman highlight trends in organizational thinking, beginning with contingency theory and its emphasis on organizations matching and responding to their external environment. As increasingly complex organizations face a greater diversity of environments, this leads directly to the dual notions of differentiation and integration; differentiation dealing with the specialization of subunits of the organization facing different aspects o the organization's complexity, and integration trying to hold together and aggregate the differentiated parts. The emerging challenge of the 21st century "is to effectively manage dramatically different businesses that overlap or even compete against one another in a single, strategically focused enterprise." (p. 46)

The authors emphasize four core lessons to be taken away from this trend for managing in the coming decade: 1) industries evolve through cycles of incremental change with discontinuous periods of punctuated equilibrium, 2) organizations are open systems that transform input into outputs during these cycles, with their structure determined by these needs, 3) how the organization chooses to organize will determine its strategic focus and sense of time horizons, and 4) both coherence and divergence must be encouraged as we organize people and processes in ways appropriate to the unique environment with which they will be confronted.

The current key strategic driver, in Nadler and Tushman's view, is the accelerated pace of change occurring everywhere today. Because rate of change is a key to their first lesson, and therefore an integral driver to the other three, they describe an understanding and respect for change as the key management driver of the next century. "Historically, the purpose of organizational structure was to institutionalize stability; in the organization of the future, the goal of design will be to institutionalize change." (p. 49)

They believe that this single strategic shift creates six key imperatives for organizations in the future: 1) increasing strategic clock speed, or the pace at which everything happens in the organization, 2) focusing business portfolios around core competencies, abandoning other peripheral activities, 3) abbreviating strategic life cycles, shortening to months what once took years, 4) creating mass customized markets in which customer differences take precedence over product similarities, 5) enhancing competitive innovation, where innovation becomes a category of thinking much broader than products and services, and 6) managing intra-enterprise cannibalism, where the organization plans and drives the obsolescence and replacement of its own offerings before someone else in the marketplace has a chance.

Recognizing that it is up to management to implement the changes necessary to meet these imperatives, the authors offer eight core competencies toward which management must strive in order to be able to allow the organization as a whole to adopt their imperatives: 1) increasing organizational clock speed, because the strategic clock speed of the organization can't change if the operational structure is locked in traditional activities and cycles, 2) designing structural divergence, because the business must be able to dynamically create and use different structural configurations to meet divergent and conflicting environmental challenges, 3) promoting organizational modularity, where acquiring

organizational components becomes just as viable as redesigning exiting components in order to meet the time demands of the market, 4) structuring hybrid distribution channels so that the fragmented market can dictate how it wishes to interact with the environment on a transactional basis, 5) designing asymmetrical research and development so that innovation and change can come from any direction rather than the product evolution path traditionally associated with change, 6) constructing conflict management processes as intra and inter-organizational conflict becomes more common in the over-paced under-communicated emerging world, 7) building organization coherence through shared goals and visions that allow autonomous subunits to direct themselves with the minimal oversight available in such shot time cycles, and 8) building executive teams that are capable and comfortable in handling the many paradoxes that will continue to emerge as the century unfolds.

The diagnosis that rapid change is a driving factor in organizational design and management is not novel; but the authors offer a useful and specific set of implications and actions logically derived from the core theme.

Pascale, R. T. (1999). Surfing the edge of chaos. Sloan Management Review, 40(3). 83-94.

Writing more for managers than for organizational theorists, Pascale provides an explanation of complex adaptive systems in a way that not only illuminates its contribution to understanding organizations, but also offers insights on how a manager might successfully use such ideas in planning and executing organizational designs. After describing why he believes that complexity is the next major paradigm or organizational thinking; he lays out four test that an entity must pass in order to be considered a complex adaptive system: 1) it must be made up of many parallel acting agents not controlled hierarchically, 2) it must be continually shuffling these agents to create new levels of structure

and organization, 3) it must be subject to the second law of thermodynamics, exhibiting entropy and winding down if not replenished, and 4) it must exhibit a capacity for pattern recognition that is applied as learning and anticipating the future.

After tracing the origins of the science of complexity through various fields; such as physics, microbiology, botany, zoology, anthropology, and economics; he lays out his "four bedrock principles" (p. 85) relevant to applying complexity to organizations:

1. Complex adaptive systems are at great risk when at equilibrium. Equilibrium or static states are always a possible precursor to system death. "The seductive pull of equilibrium poses a constant danger to successful established companies." (p. 86) Organizations will be more effective when disturbed externally by competition, or internally by diversity. Competition and diversity can drive natural disequilibrium states that keep the system growing and developing.

2. Complex adaptive systems have the capacity for self-organization and emergence. Self-organization arises from intelligence in the system that Pascale attributes to the nodes of the network of agents. Emergent properties arise from simple structures routinely generating novel responses and patterns in infinite variety. If, in fact, such intelligence is to be found in the system's extreme nodes, it greatly informs those in organizational management who believe that power and decision making need to be pushed out in organizations in order to drive innovation and change.

3. "Complex adaptive systems tend to move toward the edge of chaos when provoked by a complex task." (p. 85, citing Kauffman) Bounded instability is simply more conducive to evolutionary change and improvement than either static equilibrium or chaotic change. In fact, systems not willing to constantly slip toward chaos have only the alternative of moving toward equilibrium as an alternative; a

precursor to death. Organizations finding themselves sinking into a static state must shake things up in order to allow continual change and development to occur.

4. Complex adaptive system are characterized by weak cause-effect linkages. As a result, directing a system is not possible because there are no identifiable causes that can be influenced as a means of control. Rather, such living systems can only be perturbed. Certain system disturbances can be effective to the extent that certain dynamics around the perturbation are understood. Small deviations in knowledge can, however, result in results that diverge widely from expectations and plans.

Each of these four principles carries direct implications for the organizational manager, and so for the organizational theorist. Pascale's interest is less in whether or not the principles supplied by complexity theory are true, than in whether or not they are useful. Using several decades of examples from his experiences at Shell, he illustrates them to be quite useful.

Pearce, J. L.; Branyiczki, I.; & Bigley, G. A. (2000). Insufficient bureaucracy: Trust and commitment in particularistic organizations. Organization Science, 11(2). 148-162.

This article looks at the impacts encountered when organizations vary their handling of human resource issues across a spectrum, from universalistic treatment of all equally, to highly particularistic treatments where individuals receive specific treatments not predictable or sanctioned by the formal structures of the organization. The authors point out that while many have studied the effects of excessive bureaucracy on organizational dynamics, too few have studied the effects of "insufficient bureaucratization." (p. 148)

In universalistic organizations, all are treated equally in an impartial application of rules and criteria that apply universally to all. Bureaucratization, or formalization, of the workplace levels the

playing field for all employees by increasing the universality of existing rules and structures. In contrast, particularistic organizations treat each individual differently based on rules and criteria that may be limited to subjective opinion, or to the arbitrary will of power holders not accountable to any common framework. Actions are often based on an exclusive attachment to particular people (e.g. bosses, friendships) or groups (e.g. political parties, unions).

The authors point out that Weber's original writings on bureaucracy outlined the role played by both an organization's goal-orientation and its formalism. They lament that most studies looking at bureaucracy emphasize the formalism aspects, often describing the lack of effectiveness that often ensues as organizations continually increase their formalism. This article emphasizes goal-orientation as the critical component of bureaucracy, and the role played by increased predictability of individual behaviors under its more universalistic structures. It contrasts levels of universalism and particularism in two different employment settings; one in the United States where bureaucratic formalism dominates and universal practices are expected, and one in Hungary, a neotraditional political setting with a history and expectation of particularism.

The authors emphasize "Weber's focus on the goal-oriented, meritocratic purposes of bureaucratic organizations." (p. 150) They outline four specific areas in which particularistic practices, in the absence of sufficient bureaucratization, impeded effective organizational performance: a) loss of trust, b) shirking of responsibilities, c) lack of commitment, and d) lack of investment in expertise.

Trust is reduced when particularism removes the objectivity of decision-making from the day-to-day encounters found in the organization. "When rules are applied uniformly in an organization, employees are more likely to trust and collaborate with other employees because they expect others to operate under known rules." (p. 151) Individuals in particularistic settings tend to withhold their trust,

and to withdraw from encounters in which they perceive themselves as disempowered. Such behavior becomes self-perpetuating because reduced contact within the organization eliminates opportunities for advancement-oriented particularistic encounters with those perceived to be in power.

Employees who see inefficiencies or negligence in the workplace will tend to respond differently in universalistic and particularistic organizations. In universal organizations, employees will tend to trust that errors and problems will be corrected if reported, and so a great deal of self-corrective behavior is encountered. Conversely, in particularistic organizations the relationship between rules and outcomes is broken or nonexistent. Employees simply allow errors or abuses to continue because their expectation that anything can be done is low. This results in a cycle that encourages and rewards shirking of responsibilities. Hard work is not rewarded directly, so there are few incentives to work harder unless directly for the purposes of gaining particularistic support.

When favoritism and personal connections are needed to be rewarded or advance, independent of any actual effort or merit, employees tend to show lower commitments to their employers; although tending to remain personally committed to those on whom they rely for favoritism. Likewise, individuals in particularistic organization will not tend to spend their own time and resource building additional expertise for their jobs. Where merit doesn't figure in the reward and advancement system, time is better spent building political relationships than in investing in needed skills. In universalistic organizations, employees are "more likely to invest their time and attention in developing task-relevant knowledge and improving job performance because they expect such investments to be rewarded." (p. 153)

The study reported in this article strongly suggests that "systemic particularism in the workplace can have powerful adverse effects on employee behavior and attitudes." (p. 159) With so many

workplaces today trying to strip bureaucracy in the seach for "Internet speed," more research is needed to better appreciate where such a trend may end up. The authors warn that "many organizational behavior theorists may have been too quick to abandon bureaucracies for market-like arrangements." (p. 159)

Tetenbaum, T. J. (1998). Shifting paradigms: From Newton to chaos. Organizational Dynamics, 26(4). 21-32.

Tetenbaum begins with a look at organization's under an industrial age filter through which "the lens of Newtonian science led us to look at organizational success in terms of maintaining a stable system. If nature or crisis upset this state, the leader's role was to reestablish equilibrium." (p. 21) Echoing many other authors, she sees this world view changing because of issues and trends in technology, globalization, competition, change, speed, and complexity. These changes are overwhelming our traditional, Newtonian, management and organizational structures. "In fact, we have spent so much time teaching our organizations to be systematized and orderly that they now can't respond to the fast-changing environment." (p. 24)

She offers chaos as the emergent paradigm for managing organizations; although she is using the term in a somewhat broader sense than the technical or narrow view of chaos taken by other authors. This article is best interpreted as meaning a combination of chaos, complexity, self-organization, and adaptiveness when she refers to chaos; this extended view not being inconsistent with her contrast to more traditional pre-chaos thinking.

She describes "the essence of chaos theory; namely, that simple agents obeying simple rules can interact to create elaborate and unexpected behaviors." (p. 25) It is this essence that makes chaos so

interesting, and potentially useful, to the organizational designer. It suggests that desired outcomes can be achieved at much lower energy levels than traditional organization design would anticipate. It positions control theory as a potential barrier, as opposed to supporter or driver, to successful organizational outcomes. "It suggests that if you set a group of people in motion, each one following the right set of three or four simple rules, them, … they will spontaneously self-organize into something complex and unexpected." (p. 25)

Citing Hock's example at Visa, Tetenbaum suggests that one should strive for a form of chaordic system "conceived as an organization solely on the basis of purpose and principle." (p. 26) She acknowledges that such a configuration will be most threatening to existing organizations with large an stable structures. Self-organization presents a major risk to the invested power structures of such organizations. The paradigm is more likely to be embraced by small, younger, or less politically focused organizations; those that are less likely to deny the need for change.

For those organizations will to embrace the implications of chaos, she recommends designing and erecting a "culture of chaos" (p. 27) built on a collection of dimensions or perspectives: 1) knowledge and information sharing, 2) innovation and creativity, 3) teamwork and project orientation, 4) diversity, and 5) strong core values. The managers role in such an organization will entail: 1) managing the transition, 2) building resilience into the organization, 3) destabilizing the system to enable dynamic change, 4) managing order and disorder in the present and future, and 5) creating and maintaining a learning organization.

The fact that chaos theory offers a model for organizations doesn't necessarily imply that such a model will be useful or correct. Tetenbaum acknowledges that few organizations have yet witnessed the types of organizational dynamics implied by the theory, although strong anecdotal evidence is building.

"The recent shift to team- and project-based processes in many organizations demonstrates the fact that groups of workers will, if give a chance, find ways to accomplish a task;" they will self-organize. (p. 32) She ends by calling for further rigorous research into the definition and application of such theory to organizations.

Voss, G. B.; Cable, D. M. & Voss, Z. G. (2000). Linking organizational values to relationships with external constituents: A study of nonprofit professional theatres. Organization Science, 11(3). 330-347.

The authors look at the role played by organizational values in establishing, managing, and benefiting from relationships with external constituents of nonprofit organizations. They describe the way in which one might perceive that organizational values "are essential and enduring tenets that are intrinsic to the firm's mission and unaffected by the external environment." (p. 330) In contrast, their research shows that the complexity of external relationships involved in operating a nonprofit organization "can create tensions between the firm's intrinsic values and the disparate values and demands of external constituencies." (p. 330) They find that managing such tensions causes nonprofits to either alter or compromise some of their organizational values, or else focus attention on only external constituents with complementary values. Both strategies turn out to have strengths and weaknesses.

The authors' interest in values alignment stems from an interest in managing environmental complexity. "Shared values between environmental actors may emerge as coping mechanisms that make it possible to deal with relevant uncertainty." (p. 331) They find that shared values reduce complexity because a greater range of transactional interactions no longer have to be mediate through detail discussions of outcomes and causality; shared values providing the necessary framework and thus lower complexity.

Voss, Cable, and Voss studied nonprofit theater groups looking at three primary dimensions: 1) relational attitudes, or perceptions of how well organizational values align with those of external constituents, 2) relationship behaviors, or how the nonprofit allocates and uses resources in maintaining relationships with external constituents, and 3) relational outcomes, or how resources flow back from external constituents based on how those resources have been allocated. The authors maintain that these dimensions should exhibit consistent patterns of alignment with the overall organization's values. "in implementing relational behaviors that reflect their organizational values, they should receive greater returns from the external constituents that share those values." (p. 331)

The process by which such improvements in resource outcomes are expected runs through three stages: 1) organizational values influence how managers perceive, and behave toward, the range of external constituents who are potential stakeholders in the organization because they perceive or don't perceive values congruence; 2) the organization's values are signaled and communicated to external constituents by these values-influenced expectations and behaviors; and 3) organizations with stronger values congruence are typically more responsive to the values-induced behaviors of the organization. These values-induced behaviors typically include how the nonprofit allocates and uses human resources, and how they design and carry out programs. External constituents with strong values congruence will typical invest more in the nonprofit by sharing human and financial resources, and by participating and sharing aspects of programming.

The authors' findings are that nonprofit organizational leaders rely heavily on "key cultural values to identify external constituents that they believe are suitable partners." (p. 343) They enact their own values through human resource and programming behaviors that, collectively, encourage external constituents that are values congruent more than external constituents with divergent values. Their

research results support such actions as beneficial; usually resulting in a stronger influx of resources from those external constituents that share common values. Their data suggests — and they suggest further research in this area — that tradeoffs exist periodically depending upon the diversity and complexity of interaction among competing organizational values. Nonprofits that emphasize certain values in order to promote relationships with particular external constituents may jeopardize relationships with others; necessitating the need for effective prioritization of both values and constituents before implementing changes to organizational behaviors discussed in their study.

Additionally, the authors do not assert direct causality in their findings — they aren't asserting that the modified behaviors on the part of the nonprofit organization cause the increased responsiveness of the various constituents. "Related research is needed to determine whether firms naturally gravitate to partners that share their values, or whether firms gather and process information regarding external constituents' values, strategically partnering with firms that share their values." (p. 344)

Chapter 1

Introduction

Overview

Within the study of organizations, the study of nonprofit organizations offers opportunities to observe the goal and behavior mediating impacts of clearly articulated vision and mission statements simply because the profit-seeking goals of the traditional business sector are absent. The qualitative nature of such value statements allows for a broad range of organizational responses based on environmental conditions. The diversity of such responses introduces apparent randomness that may be explained, at least in part, by the concepts of self-similarity in chaos theory and adaptation in complexity theory. If so, the range of responses, and organizational structures that result, will vary widely yet be constrained by attractors. Such attractors, if known, would constitute an effective operational definition of the nonprofit sector.

Objectives

The breadth component of this KAM looked at organization and social systems; while thus depth component focuses narrower attention on nonprofit organizations and the chaotic self-organizing aspects of social systems. Specific depth component objectives are:

1. Evaluate the extent to which various key elements of the developed systems framework apply differently to organizations in different sectors; business, social, and governmental.

2. Evaluate the extent to which various key elements of the developed organizational framework are illustrated differently by different portions of the systems model.

3. Analyze and contrast how these interactions specifically affect the interaction and understanding of a focused view of social sector organizations and nonlinear systems theory.

Summary

This depth component picks up where the breadth component left off; with a broad operational definition of organization theory built on structural aspects of organizations, filtered through the a lens of basic system theory to view organizations as potentially complex social systems. The viewpoint below is narrowed to nonprofit organizations specifically, and systems concepts based on complexity and chaos theories. The application component, based on the synthesis offered at the end of this depth component will analyze several real-world change interventions using these concepts as filters for understanding and explaining outcomes actually achieved in those interventions.

Nonprofit Sector Organizations

The exploration of nonprofit organizations begins with the problem of defining just what constitutes the nonprofit organizations and the organizations that make it up. Seibel and Anheier (1990) provide three differing criteria — structural, economic, and functional — that can be used to differentiate organizations in the sector; proposing research into nonprofits as independent variables with comparisons and differentiating across organizational types. This depth component takes this approach.

Salamon and Anheier (1992a) explore the terminology and conceptual dimensions that can be used to create an operational view of the sector. They go on to add a fourth definitional criteria to the three discussed above — legal — because different countries have different definitions of what constitutes nonprofit organizations and there are significant tax and regulatory implications built into those legal definitions. Businesses can be discussed without the concept of corporation, but nonprofits are difficult to discuss without the concept of tax exemption.

By offering a series of evaluative criteria; based on economy of concepts, significance of definition, and explanatory power; Salamon and Anheier select the structural definition of nonprofit

organizations as the most powerful and effective. The emerging definition requires that nonprofits be formal private organizations that self-govern without distributing profits while remaining dependent upon voluntary association and labor.

Within the structural definition, various internationally accepted taxonomies are described for clustering or aggregating individual nonprofit organizations into groupings for analysis. The more common criteria for such groupings is functional. (Salamon & Anheier, 1992b) Hrebiniak (1978) discusses how the structural definition can lead to an analysis of boundary conditions, within and around an organization. Boundaries result in relationships that increase organizational complexity. Complexity becomes an emergent property of the increasing boundaries and relationships imposed by a structural viewpoint of an open system.

Chaos & Complexity

Following up on this anticipated increase in organizational complexity, this depth component then explores the concept of complex organizations using ideas drawn from chaos and complexity theories.

The central theme is Wheatley's (1999) contention that organizations, as open systems, are subject to the very kinds of self-referential and self-organizing behaviors and patterns that are indicative of chaotic and complex systems. Leadership becomes focused on identifying and nurturing the self-similar fractal patterns that develop throughout the organization so individuals can self-organize around the few core principles that define its attractor. Wheatley and others assert that those few core principles are embodied in the vision and mission of an organization. Leaders are those who help that vision and mission emerge through self-organizing and adaptive behaviors of the system.

Shifting leadership from the traditional role of espousing vision and mission to a new role of allowing them to emerge from the organization itself carries implications for organizational planning. Mintzberg (1994) discusses the paradigm shift required as organizations give up any notion of centralized strategic planning to, instead, focus on embedding strategic thinking throughout the organization. Such thinking becomes a competency needed for effective self-organization and emergence rather than a management function of the system.

Emergence leads to self-fulfilling feedback loops as the organizational system adapts to its environment; largely now made up of the relationships among individuals throughout the system. Vision and mission emerge as the strange attractors that bind the system; individual self-organizing behaviors limited in how far they can vary from the vision and mission attractor. Information generated and shared through these behaviors serves to reinforce the feedback loops that drive system behaviors. Ultimately, organizational capacity to change is defined by such feedback loops. The leader's role becomes one of encouraging such behaviors and emergence, and otherwise getting out of the way.

Dynamics in the Social Sector

This depth component closes with a brief discussion of how the definition put forward for nonprofit organizations constrains the organizational model developed in the breadth component. The constrained model leaves many dimensions and aspects of the organization unconstrained, and able to be impacted by self-organizing and emergent aspects of chaos and complexity theories. If viable, the model can be used to develop hypotheses regarding system behaviors and outcomes that might best be explained using the chaotic and adaptive models of complexity.

Looking Ahead

This model is further explored in the application component through a small collection of case studies. Each represents an actual organizational change intervention that I was involved in during the 1990's. After a general description of each case, the dynamics outlined above are then used to illustrate things that actually happened in the case and possibly explain both positive and negative outcomes. The case studies are not chosen at random. They represent my actual work in the nonprofit sector. However, the use of these cases to further explore the model developed in this depth component can serve as a test of the model adequate to identify opportunities for further study in my dissertation.

Chapter 2

Nonprofit Sector Organizations

This section explores the aspects of organizations in the nonprofit sector that are used to define the sector itself, and measure the extent to which any particular organization should be viewed as being in that sector.

Nonprofit Sector

Seibel and Anheier (1990) note that few countries beyond the United States use the term "nonprofit sector" to describe the collection of economic and social organizations that exist independently of the business and governmental sectors. They suggest the term "third sector" to signify organizations that are not for-profit businesses nor government agencies or bureaucracies, noting that the French use the term "social economy," ("économie sociale") the British use the term "non-statutory sector," and the Germans the term "public service organization" ("gemeinwirtschaftliche Organisationen") for these organizational types. In spite of differences in names, they suggest that elements of these sectors in these various economies share many common features that can be studied as a collection. (p. 7)

James (1990) points out that thinking about nonprofit organizations in the United States often entails including tax-exemption and other economic aspects that are lessened or absent when discussing similar organizations in other countries. (p. 21) She emphasizes in her discussion of nonprofits the common element that nonprofits everywhere typically have no direct owners who are entitled to share in the profits of the organization's activities. Counterintuitive to the term nonprofit organization, these organizations often make profits; in the economic sense of income exceeding costs. What makes them different is that they do not disburse these profits to owners; rather retaining them for internal and

service use. Economically, a for-profit business that chooses to retain all earnings would look very much like a nonprofit organization. For this reason, she argues the distinction between nonprofit and for-profit organizations must lie outside of the profit-derived economic sphere. (p. 21-22)

Seibel and Anheier identify and critique, citing Ronge, three categories of criteria that can be used to differentiating organizations in the nonprofit sector from other organizations: 1) unique institutional characteristics of the organizations themselves, 2) different economic rationales for action in and through the organizations, and 3) the actual institutional functions served by the organizations in the society and economy. (p. 9)

With respect to the institutional characteristics of nonprofit organizations, Seibel and Anheier point out that political scientists often discuss the third nonprofit sector as mediating between market and state systems; omitting any discussion of the actual production role of the sector in terms of outright goods and services. (p. 9) They see the ability of nonprofit organizations to combine aspects of social issues with economic goals as a unique competency that goes beyond the traditional mediation role attributed to such organizations, and call for more research to expand our knowledge in this area.

With respect to organizational rationale, Seibel and Anheier see nonprofit organizations differing from other sectors in relative, rather than absolute, terms. Nonprofits tend to exhibit fewer means for achieving their goals, yet exhibit higher levels of solidarity and direct exchange among each other within the sector. In addition, these organizations exhibit much higher levels of discretion in how they take advantage of their means and solidarity than counterpart organizations in business and government. Nonprofits are less tightly coupled that other organization types, and often have less clarity, or more heterogeneity, of operational goals than their for-profit and government counterparts. Acquaintance

networks often provide access to human resources, supporting informal resource allocation, not usually available to other organizational types. (p 12-13)

Seibel and Anheier's third criteria centers on the ability of nonprofit organizations to achieve results and supply services that are not achievable or available in any other organization types. They discuss multiple perspectives; that nonprofit organizations emerge from failures in the for-profit private sector to supply needed goods and services, and that nonprofits emerge from a failure of the state to supply needed public goods. Either perspective supports the idea that the nonprofit sector has emerged through weaknesses in the simpler public-private sector dichotomy. Added to such emergence through weaknesses in other sectors, Seibel and Anheier add that nonprofit organizations are often perceived as more trustworthy because they have fewer political or profit-motivated reasons to sacrifice quality or cheat stakeholders. Such trustworthiness strengthens the position for any nonprofit that emerges to fill an unfilled need.

Seibel and Anheier suggest two research agenda for studying nonprofit organizations. The first places "nonprofit organization" as the dependent variable; investigating the emergence of the sector, and why certain functions predominantly end up in one sector or another. The second treats the subject as an independent variable; investigating how nonprofits differ from other organizational types, why certain patterns of nonprofit organization and behavior seem evident, and the effects on local economies and politics of the presence of strong nonprofit organizations. (p. 14) The latter set of questions are the central theme of this depth component, as the structural and social organization models and explanations presented in the breadth component are applied to organizational types in this nonprofit sector.

Understanding the Nonprofit Sector

Salamon and Anheier (1992a) confront an analysis of the nonprofit sector as a question of definitions and the reasons that few consistent and stable definitions have emerged for the sector. First, they cite the great diversity of organizations and organizational types that get placed in this third sector; questioning how such a collection of organizations with such diversity can be seen to have enough common features to legitimately be considered as a unified sector. (p. 2) Second, they point out that the other two commonly discussed sectors — the large-scale profit-making firms and public administrative institutions — have a far great influence on the modern world, leaving the nonprofit sector as an intellectual orphan. These social institutions have lacked the economic or political impact necessary to gain widespread attention in many countries of the world. (p. 2)

They counter such reasoning by pointing out the enormous impact that the nonprofit sector actually achieves in society and its economy. The nonprofit sector accounts for over half of all hospital beds and college seats. It provides most of the social services offered and virtually all of the cultural services available in our society. Beyond these economic impacts, Salamon and Anheier point out that the nonprofit or social sector has given rise to most of the social and political movements that dominate our conceptual landscape; citing the environmental and civil rights movements as recent examples. (p. 2-3) They question how a sector of organizations having such a broad extent and such obvious impact can be so under-appreciated in "our public discourse or academic debate." (p. 3) Their own answer is that we lack "a sufficiently clear and workable definition of what this sector really encompasses." (p. 3) Our failure to discuss and understand the phenomena in question comes from the weaknesses of our concepts for discussing the phenomena, beginning with our definitions.

Terminology

Salamon and Anheier (1992a) discuss various aspects of definitions that attempt to place organizations in the nonprofit sector into a conceptual context. Each typically emphasizes or focuses on one aspect of the reality represented by such organizations to the exclusion of other aspects. "Each is therefore at least partially misleading." (p. 4)

Definitions involving the "charitable sector" are based on charity as a focal point for looking at these organizations. However, the vast majority of nonprofits accepting charitable donations still look to other sources for much of their financial support. Other definitions of nonprofit organizations place them in an "independent sector," emphasizing their separation from private business and government. Such definitions downplay the sector's dependence upon business support and financing, and often ignore the fact that many nonprofit organizations look very much like businesses in their operation and appearance. Also, because of their dependence on tax exemption, and the rules regarding such exemption, these so-called independent organizations are actually highly dependent upon the governmental regulations that define their status. Definitions involving the "tax-exempt sector" fall into this pitfall as well.

Definitions that focus on the "voluntary sector" emphasize the significant role often played by volunteers in the operation of nonprofits. However, many such organizations — even those completely dependent on voluntary labor — are managed and run by professionals. The realm of management looks very much like any other business in the private sector; and since the fact that employees are paid in the private sector isn't that sector's defining characteristic, focusing on this aspect of nonprofits doesn't lead to a comprehensive and distinctive definition of the sector.

The concept of "nongovernmental organization" (NGO) is often invoked to define the sector, particularly outside of the United States. NGO's are usually viewed as organizations engaged in

promoting environmental or developmental causes. These organizations, while usually well organized, are often perceived and described as grass-roots efforts. Their distinction as NGO's is usually derived from conspicuous differences in their levels of participation in international conferences, summits and other activities.

Lastly, Salamon and Anheier discuss the most common delineation, "nonprofit sector." While true that these organizations do not exist to generate profits for their owners, it is usually untrue that these organizations generate no profits. Any organization that has expenses in excess of its revenues will falter, and organizations in the nonprofit sector are no different. The emphasis in the definition based on "nonprofit" lies in the way profits are retained rather than distributed, and in the constant reinvestment of such profits in the outcomes of the organization. Since many for-profit organizations retain and reinvest a significant portion of their excess revenues, the distinction isn't completely useful at the margins.

Each of these sector definitions emphasizes different aspects of the group of organizations being described. Salamon and Anheier assert that none is complete alone, yet together they offer a consistent view of the organizations being described. (p. 4-5)

Differentiating Dimensions

Another way that Salamon and Anheier attempt to clarify the nonprofit sector is by looking at dimensions where such organizations can be differentiated clearly from other business or governmental organizations.

Philanthropy. There is a clear distinction between the organizations considered to be nonprofit and philanthropy. These terms are often used interchangeably, and Salamon and Anheier argue that philanthropy says more about the private business sector than the nonprofit sector that is often a benefactor of philanthropy. They define philanthropy as the giving of private gifts for public purposes.

(p. 5) Many nonprofit organizations are somewhat or highly dependent upon such philanthropic giving; but that giving serves as a revenue stream more than a defining dimension for the nonprofit sector. Eliminating philanthropy would severely impact the ability of nonprofits to operate; but it would not affect their definition or existence.

Units of Analysis. Another distinction noted by Salamon and Anheier is whether or not there is a distinctly clear collection of organizations available for analysis such that they would actually constitute a unified sector. (p. 6) One must be clear when defining this sector exactly which organizations would be included, and which would be excluded from analysis. In the United States, with its structured and precise tax code, such distinctions are relatively easy. In other parts of the world, such as Japan with its myriad laws dealing with organizational structures, the delineation of a nonprofit sector, or subsectors, can be challenging.

Formality. The extent to which nonprofit organizations are formally organized and structured is another differentiating issue for Salamon and Anheier. Expecting a particular level of formality in nonprofit organizations arbitrarily limits the scope of the sector being studied. In the United States, usually for tax reasons, almost all nonprofit organizations are formally incorporated; making identification of organizations in the sector fairly clear. However, Salamon and Anheier point out that such formality is a relatively recent phenomena. Prior to the 1950s, most organizations that would be consider nonprofit were defined or governed by internal chartered. These provided a level of formality much lower than that seen today.

Likewise, in places where formal incorporation is not permitted (e.g. Eastern Europe until very recently) or where informal organizations are the norm (i.e. village associations in third world countries,

most nonprofits in Italy), formality can not be used as a distinguishing characteristic of nonprofit organizations.

Civil vs. Common Law. Another distinction drawn by Salamon and Anheier is that between organizations that are defined within civil law countries, and those defined by common law. In common law countries, such as the United States and United Kingdom, "private institutions can claim the privilege of operating in the public interest as a matter of right." (p. 7) The permissibility of any particular action carried out by an organization is ultimately determined by the emergence of case law. Through the history of its existing cases, the community gradually determines and defines what it means by public good.

In civil law countries; such as France, Italy, or Germany; there exist separate bodies of law for private and public activities. Organizations defined under the public law carry out activities defined as being for the public good. These public institutions can charter privileges to private organizations to act in the public good through specific legal actions granting such rights. These organizations end up being private organizations operating under public law.

Salamon and Anheier see implications in such a distinction. (p. 7) In civil law countries, nonprofits will be closely aligned with the state government that grants it authority to act for the public good. In common law countries, nonprofit organizations will be more aligned with the private sphere because of the similarities with businesses seen from their need to define their own mission and markets and sustain any necessary revenue streams needed to operate. This distinction must be taken into account when attempting to define or view the nonprofit sector on a broader basis than a single country.

Level of Development. A related factor to these political and legal considerations is the level of development generally seen within a society, and the impact that level of development has on the

definition or clarity of its third nonprofit sector. Salamon and Anheier note that the perceptions attached to particular behaviors will differ based on such developmental maturity. In societies with strong social differentiation and economic development, attempts to organize people and provide specific services will tend to be viewed as being part of the business sector. Societies lacking such differentiation and development, where these acts are considered novel, will tend to view such activities as outside of the traditional business sector. In these latter cases, a third sector will emerge in the discussion; referable based on one of the numerous definitions of the nonprofit sector discussed above.

History. Salamon and Anheier finally cite numerous historical factors that must be considered in differentiating organizations in a society's nonprofit sector: religion, autonomy, and traditions. (p. 7-8) In countries in which church and state are closely aligned, the number of organizations that would constitute the nonprofit sector is very limited. Too many of the services traditionally associated with nonprofits are already available or offered through the church state. Where clear boundaries exist between church and state, as in the United States, "the social space open to a third sector is much larger." The church itself will be defined as part of the nonprofit sector, and many organizations will emerge that provide similar services as churches because the churches do not hold preferred positions within the state.

The issue of autonomy cited by Salamon and Anheier involves the degree of autonomy available to the society due to independence and economic development. In developing countries with weak economies, nonprofits tend to emerge from external developments and interventions; such as missionary churches, foundations, or outside development agencies. "Although indigenous nonprofit institutions often exist, the influence of external actors often manifests itself in a distinctive set of foreign-sponsored NGO's." (p. 8) Question arise regarding the efficacy of comparing nonprofit institutions in these

societies with those found in more developed autonomous societies. Comparing nonprofit sector activities across such conceptual boundaries might best be served by also crossing temporal boundaries; comparing present day developing countries to historical perspectives of today's developed countries.

Finally, Salamon and Anheier describe national traditions as integral to understanding the emergence and definition of nonprofit organizations and cultures within countries. National cultures based on individualism and anti-governmental feelings, as found in the early United States, will be more likely to form diverse and complex nonprofit services than other nations. Salamon and Anheier offer the strong Jacobin aversion to independent associations in post-revolutionary France and the waqf traditions in Islamic countries as examples of the affects of national traditions on the emergence and typing of nonprofit organizations. (p. 8)

Definition Types

All of these factors — terminology and differentiation — will impact the accuracy and usefulness of any definition that is put forward for the nonprofit sector and organizations within that sector. Salamon and Anheier (1992a) analyze various definitions available in the literature, and offer four generalizations regarding the types of definitions that are available: 1) legal, 2) economic, 3) functional, and 4) structural. They offer specific criteria for evaluating the usefulness and clarity of each of these types before concluding that the structural types are most effective in defining the sector and delineating among organizations inside and outside of that sector.

Legal. Legal-based definitions of nonprofits are those in which nonprofit organizations are what the country's laws say they are. Most countries have laws governing the types and ranges of organizations that can be considered nonprofit service providers. Salamon and Anheier include in such definitions those laws created out of judicial ruling and cases in common law countries. Such definitions

typically make the boundary between nonprofit and other organizations very clear; usually at the expense of delineating the specifics of the products or services offered by those organizations. Using these definitions it becomes possible to build typologies of nonprofit organizations from the diverse array of such organizations covered by the laws in question.

Economic. Economic or financial definitions of nonprofits focus on sources and types of income driving the organizations rather than their legal form. The United Nations System of National Accounts, against which countries officially report on national income, uses such economic definitions. The United Nations accounts break out organizations into four sectors: 1) enterprises, 2) government, 3) nonprofits, and 4) households.

These definitions concentrate on the sources of income that dominate an organization's operations. Enterprises, or businesses, finance their operations through the creation and sale of some product or service at market prices. Governments create non-market goods and services that are subsidized by taxes. Nonprofit organizations are those that receive the majority of their income, not from sales or taxes, but from the dues and contributions they are able to solicit from members and supporters.

On the surface, such a distinction seems to align with everyday expectations of what constitutes a nonprofit organization; but the economic definition is actually more limiting. Organizations accepting dues and contributions that actually receive more than half their income from selling products or services are put into the business or enterprise category. Those that receive more than half their income from government support, regardless of the levels of membership or contributory giving, are considered as arms of government. Only organizations that receive half or more of their income from the household sector are included as nonprofits under these definitions.

Functional. Definitions of organizations that center on their functions or purposes constitute Salamon and Anheier's functional definitions. Such definitions typically focus on the social and developmental aspects of many nonprofits. They typically describe "private organizations serving a public purpose," (p. 10) or "the good of the society." (p. 10) Such definitions exclude a great many organizations that would easily fall under the legal or economic definitions of nonprofits; those organizations that serve purposes targeted exclusively at their own memberships rather than the public good. There is nothing in the functional definition that precludes such organizations from being included. Salamon and Anheier simply note that they are typically not so included. (p. 10)

Structural. Salamon and Anheier base their fourth category of definition on the structure and operation of the organizations being categorized. Detail definitions of this type will vary from each other to the extent that different aspects or characteristics of structure are included in the definition. Based on their own analysis, and findings of the Johns Hopkins Nonprofit Sector Project, they describe five key structural characteristics that will be exhibit by all nonprofits:

First, nonprofit organizations are formal. These organizations exist as institutions in some form, whether through legal incorporation or simply through the regularity of meetings and expectations of members. Some degree of organizational permanence is typically demonstrated through a form of charter or by-laws, the existence of officers or boards, and some combination of procedures for running the organization. Purely ad hoc or informal gatherings of individuals are not considered nonprofit under such definitions, even though such gatherings might serve many similar purposes and be very important in the life of the community.

Second, nonprofit organizations are private; "institutionally separate from government." (p. 11) Many nonprofit organizations receive a significant percentage of their funding from government, but to

be considered nonprofits, they must be "fundamentally private institutions in basic structure." (p.11) This means that they can not be an explicit subset of any particular government apparatus, nor have their own board dominated by members representing government functions.

Third, nonprofit organizations must be non-profit-distributing. As discussed above, any organization that has expenses in excess of revenues will falter; therefore even nonprofit organizations must technically make a profit in the accounting sense. But nonprofits will not distribute profits to their owners or boards. Excess revenues are typically reinvested in mission-relate services or placed in partial reserve against future revenue short-falls. The essence of this aspect of structural definitions of nonprofits is that they do not exist primarily to generate profits for anybody.

Fourth, organizations that are nonprofit must be self-governing. They must not be controlled by outside entities; rather having their own internal procedures for governance and continuance.

Fifth, nonprofit organizations must involve some meaningful degree of volunteerism. Whether the organization is built from completely voluntary labor throughout its structure, or it simply uses volunteers in provision of service while being organized by a professional staff; the presence of some form of voluntary actions is necessary for an organization to be considered a nonprofit.

These five conditions will vary considerably when looking at particular organizations in the nonprofit sector from the viewpoint of the structural definition. Some organizations will satisfy some of these criteria more than others. According to Salamon and Anheier though, "to be considered part of the nonprofit sector under this definition, an organization must make a reasonable showing on *all* five of these criteria." (p. 12, emphasis in original)

Evaluation Criteria

For selecting the most effective type of definition from among their four alternatives, Salamon and Anheier offer three evaluative criteria: economy, significance, and explanatory power. By economy they mean an ability of the definition to identify and narrow discussion to a few critical aspects, producing a model for discussion that is simpler than the reality being discussed. By significance they mean the ability of the definition to focus attention on less obvious or non-trivial aspects of the discussion. For explanatory power they focus on the rigor with which the definition can be applied by multiple persons to the same result, the richness with which the definition can be used to generate a range of diverse and interesting hypotheses, and the organizing power with which the definition can be used to explain functions and features that go beyond the original purposes for which the definition was developed.

Clarifying the Nonprofit Sector

While applying their own evaluative criteria to the four types of nonprofit sector definitions, Salamon and Anheier (1992a) reach the conclusion that the structural definitions best account for the robustness and variety of organizations found in the nonprofit sector.

They argue that the legal definitions offer the highest rigor, while lacking any economy, for a single reason. The laws that define nonprofits in any particular country are generally well defined — rigorous — although often very convoluted and complicated by case law interpretations and regulations that implement them — they lack economy. The variability of legal definitions across legal jurisdictions and boundaries means that an organization that would easily be considered a nonprofit under one set of laws might be explicitly excluded under another. These definitions therefore lack organizing power.

"Under these circumstances, the legal definition becomes largely useless for comparative purposes." (p. 13)

Economic definitions enjoy a high level of rigor once the economic chart of accounts they encompass are defined (see Table 7 through Table 10). They also entail higher levels of economy and organizing power due to the fact that they are typically based on account taxonomies that are often simple to use, and can be shared across analysis boundaries. However, they typically lack a high level of significance because they "essentially define away" (p. 14) many aspects of what would otherwise be considered nonprofit activity into the business and government sectors. "This definition essentially collapses the definition of the nonprofit sector into the definition of private philanthropy." (p. 14) It looses the richness that would otherwise be maintained if the complex relationships between nonprofit, government, and business sectors were left intact. Instead, these complex relationships are shifted into the other sectors as though they were not part of the nonprofit sector at all. (p. 14)

The functional definitions of the nonprofit sector focus on discerning the objectives and purposes for which an organization operates. This represents a slight extension of the legal definition since the existence of such organizations for analysis presumes that the organizations have legal standing in their respective countries. In this way, the functional definition has greater organizing power than the legal definitions because, dependent more on objectives and outcome rather than laws, they can be used across national boundaries. However, this power comes at the expense of economy because it requires that the various purposes for which nonprofits are formed to be delineated and grouped for analysis. Rigor is invariably sacrificed because such listing are bound to include ambiguous and overlapping categories. Likewise, functional definitions can lack combinatorial richness if commonly accepted nonprofit objectives in one part of the world are excluded from such thinking in other parts of the world,

or if commonly accepted objectives are also seen as common in the business and government sectors. Truly delineating nonprofit organizations can be difficult under such conditions. (p. 15)

Salamon and Anheier promote the structural definition as the most powerful and useful of the four types discussed. They point to the high level of economy achieved by reducing the definition to just five basic characteristics. The broadest possible range of organizations can be included in the definition within the constraints imposed by these five characteristics; giving the structural definition high significance. It demonstrates considerable explanatory power because it can be used to analyze organizations across national and economic boundaries. As long as organizations exhibit the five defined traits, they can be included in the definition of the nonprofit sector.

The structural definition can be argued to lack rigor because each of the five defined characteristics can be difficult to apply with objective precision. The allowed variability within each of the five dimensions contributes to an ever greater ambiguity at the margins. However, for operational purposes, any particular discussion can limit the variability of any particular dimension in such a way that the range of organizations included in the definition can be limited for discussion purposes. It becomes possible to discuss particular subsets of nonprofits as well-defined classes; providing for a combinatorial richness not available under the other types of definitions.

The strongest arguments for emphasizing a structural definition for the nonprofit sectors are that it becomes possible to empirically define the sector without having to resort to an actual analysis of each specific case, and the model defined provides an ability to create hypotheses about organizations in the sector and their relationship to society and other sectors. (p. 16) The five dimensions within the definition offer opportunities for independent and dependent variables that can be used to test such

hypotheses and expand knowledge of the sector; this maximizing the definition type's predictive and explanatory power.

Nonprofit Sector Taxonomies

Having worked out their schema for defining nonprofit organizations, Salamon and Anheier (1992b) moved on to the issue of classification, "of identifying the systematic differences among the organizations in the sector and an appropriate basis for grouping them." (p. 268) The discussion of defining nonprofits as organizations had concentrated on identifying characteristics that such organizations might share in common. Classification schemes would focus on remaining differences within the sector that could be used for further analysis and discussion. Classification seems particularly important in the nonprofit sector precisely because the definitions of nonprofit organizations remain partly ambiguous at the boundaries. (p 268)

Following on their recommendation of the structural definition as opening the nonprofit sector to a very wide range of component organizations, Salamon and Anheier (1992b) describe the need to be able to delineate and organize those diverse organizations. They offer their International Classification of Nonprofit Organizations (see Table 7) as a candidate taxonomy for organizing nonprofits into twelve groups for analysis.

Table 7 - International Classification of Nonprofit Organizations (ICNPO)

6. Culture and recreation
7. Education and research
8. Health
9. Social services
10. Environment
11. Development and housing
12. Law, advocacy, and politics
13. Philanthropic intermediaries and voluntarism promotion
14. International
15. Religion
16. Business, professional associations, unions
17. Not elsewhere classified

Note: Adapted from Salamon & Anheier, 1992b, p. 283.

The categories themselves are largely drawn from a viewpoint much like the functional definition; emphasizing objectives and outcomes. The structure also supports a rough economic view also because it maps closely to the various national income accounting systems used by the United Nations for global consolidation of data. Each of the twelve functional groups are further defined by Salamon and Anheier into lower level definitions that even more easily map to other taxonomies and accounting structures.

Several other existing taxonomies for describing the nonprofit sector are also offered by Salamon and Anheier as alternatives. One is the United Nations Standard Industrial Classification System (ISIC) (see Table 8).

Table 8 - International Standard Industrial Classification (ISIC)

Education
Primary
Secondary
Higher
Adult and other
Health and social work
Human health services
Veterinary activities
Social work activities
Other community social and personal service activities
Sanitation
Business and professional
Trade unions
Other membership organizations (including religious and political)
Entertainment
News
Libraries, museums, culture
Sport and recreation

Note: Adapted from Salamon & Anheier, 1992b, p. 276.

A major drawback of the ISIC is that it is based on an economic definition of the nonprofit sector in which any organization receiving more than half its income from business or government sources is not reported against this taxonomy, but rather under the taxonomy of the sector providing that dominant revenue.

A related, but differing, taxonomy is the General Industrial Classification of Economic Activity (NACE) developed by the European Statistical Office (see Table 9).

Table 9 - General Industrial Classification of Economic Activity (NACE)

Education
Higher
Primary and secondary
Vocational
Nursery
Research and development
Medical / health
Hospitals, nursing homes, sanitoria
Other medical care
Dental care
Veterinary
Other services to the public
Social work
Social homes
Professional associations
Employers federations
Trade unions
Religious organizations and learned societies
Tourism
Recreation, culture
Entertainment
Libraries, archives, museums, zoos
Sports organizations

Note: Adapted from Salamon & Anheier, 1992b, p. 276.

This European system is based on economic consideration much like those of the United Nations model, and it shares similar weaknesses. The NACE classification limits nonprofit

organizations to those that depend almost exclusively on charitable donations, or else exist in very specific non-market areas, such as social work or religious activities.

Another available taxonomy is the National Taxonomy of Exempt Entities (NTEE) developed by the National Center for Charitable Statistics (see Table 10).

Table 10 - National Taxonomy of Exempt Entities (NTEE)

Education
Health
Mental health
Diseases, disorders
Medical research
Crime, legal
Employment
Food, nutrition
Housing, shelter
Public safety, disaster preparedness
Recreation, sports
Youth development
Human services
Arts, culture
Environment
Animal-related
International
Civil rights and advocacy
Community improvement
Philanthropy
Science research
Social science research
Other society benefit
Religion-related
Mutual benefit

Note: Adapted from Salamon & Anheier, 1992b, p. 276-277.

The NTEE taxonomy was originally developed to help clarify identification and classification of nonprofit organizations under the United States tax code, but it has found a broader international use

because of its breadth and richness. It allows for the grouping of nonprofit organizations into twenty-five groups; providing for a much richer analysis than the three major groups supported under the ISIC or the five available under the NACE.

Each of these taxonomies offer some structure and rigor for grouping nonprofit organizations. Salamon and Anheier (1992a, 1992b) have provided a rationale for viewing structural definitions and classifications as most effective for analyzing the nonprofit sector. A challenge in the application of any of these definitions and taxonomies is the complexity and ambiguity of working with specific organizations at the boundaries of the selected definition or taxonomy. Being able to place organizations squarely into these defined categories is important, then, in performing analysis and continuing discussion. The complexities that emerge at the boundaries must therefore be considered in forming a complete picture of the sector.

Emergent Complexity

Hrebiniak (1978), discussing characteristics of the most complex organizations, emphasizes environment and exchange — or boundaries — as key characteristics of organizations over their social purposes, goals, and internal structures. He describes the need for organizations to establish their "domain." This involves deciding on the range of products or services to be provided and the populations or stakeholders to be served. "An essential point is that the establishment of domain rarely can be arbitrary or wholly unilateral." It is only when this domain is recognized as legitimate by those outside and inside the organization that such domain can become concrete. In many cases, establishment of such a domain is an emergent property after many interactions of organizational stakeholders. The evolution of such a domain characterizes the organization balancing itself against its environment over time. (p. 6-7)

This field of organizational emergence has grown deeper in recent literature as a result of interest in applications of chaos theory, complex dynamics, and other science-based models and paradigms. These models and their adaptation to organizations is the subject of the next section.

Chapter 3

Complex Organizations

This section explores the application of the theories of complexity and chaos to understanding organizations. Self-organization and self-referential features of organizations; along with the fields that support its interactions, 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 specialists 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. The energy required to participate in organizations is 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.

Whealtley 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 working with 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.

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.

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. Emphasis in managing the system 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-1900's. The reengineering movement of the 1990's, 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 ina 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 quality 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 dysfunctional or undesirable 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. The organization will be successful and thrive if those principles 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 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 suggest 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 spec 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 emerge. 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! "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 and the relationships that are formed among its component members as a result of that interaction.

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.

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.

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) What typically goes unrecognized "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 leadership 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 identify 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 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. 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. 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 existed and affected outcomes. 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 collective 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 my 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 to far from their current or target state of 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. 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 leader 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 leader creating such messages can be anywhere and in any position. Leadership 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 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 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. 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)

Organization 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. 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. 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 enables 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) 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.

The next section combines these notions of complexity and change with the earlier discussion of the nonprofit sector and its apparent structures. It explore the dynamics of social sector needs for change that set the stage for the final application section of this KAM.

Chapter 4

Dynamics in the Social Sector

This section maps the structural definition of nonprofit organizations presented in the second chapter to the general structural discussion of organizations presented in the breadth component of this KAM. The nonprofit structural definition uses several of the dimensions laid out in that breadth discussion, leaving other general dimensions to explain the variability and diversity of organizations actually encountered in the nonprofit sector.

Organizational Dimensions

These variable dimensions provide a solution space in which the dynamics of chaos and self-organization presented in the prior chapter create the rich complexity and robustness of nonprofit organizations actually encountered throughout the sector. The structural definition of nonprofits constrains a few of the dimensions; while leaving the majority free to vary and provide for differences observed in actual organizations. To the extent that one or more of these variable dimensions exhibit nonlinear or self-organizing behaviors, the opportunities for richness in organizations encountered in the real world increases dramatically.

Structural Dimensions

The structural definition of nonprofit organizations (see p. 57) developed by the Johns Hopkins Nonprofit Sector Project (Salamon & Anheier, 1992a) focused attention on five key dimensions that delineate organizations in the nonprofit sector from others: 1) the formality of the organization's existence, 2) their private nature as opposed to having strong ties to government or particular businesses, 3) the retention and reinvestment of excess revenues or profits, 4) their independence

through self-governing bodies, and 5) their dependence on volunteerism for their existence and operation.

Several of the structural dimensions for organizations outlined in the breadth component map, in whole or in part, to these five dimensions. Daft's (1992) focus on formalization as an initial structural condition is an exact parallel. Also, the self-governing requirement of the definition impacts Daft's hierarchy of authority dimension because it constrains the options available at the top of the hierarchy. Nonprofit boards for the top of the organizational hierarchy provide ties to other organizations and sectors based on their personal backgrounds and involvement; but the constraint that nonprofits be private enterprises limits what those relationships can be and how strongly they can impact board member roles within the nonprofits. In addition, the emphasis on volunteerism throughout the hierarchy impacts Mintzberg's (1979) dimensions for unit grouping, in which the chain of command that determines the activities that can be grouped in throughout the organization, and unit size, in which span of control and mutuality are issues.

Daft's professionalism dimension, in which he focuses on the education and training of organizational members, is impacted by the dependence of nonprofits on volunteerism. Likewise, his personnel ratio dimension, in which the distribution of people into functions represents a key structural aspect of the organization, will be impacted by the same volunteerism and potential lack of professionalism among the body of volunteers available. As Daft's professionalism declines and volunteerism increases, Mintzberg's dimensions for unit grouping and size become more important in determining how the nonprofit organization will operate.

Mintzberg also offers the form of liaison devices used in the organization as a key structural characteristic of the organization itself. Nonprofits constrained to private independent self-governance

relying heavily on volunteerism will place unique sector-specific demand on liaison functions within the organization and with other organizations. The expected lack of professionalism throughout the organization hierarchy will result in planning and communication breakdowns that will force levels of horizontal and vertical decentralization — two of Mintzberg's key structural dimensions — that might actually be accidental or unintended.

Contextual Dimensions

In addition to the structural dimensions discussed in the breadth component, several contextual dimensions were presented. These contextual dimensions dealt with the interaction between the organization and the various environmental and conceptual contexts within each interacts. Salamon and Anheier's structural model for nonprofits directly impacts two of the context dimensions that were discussed.

The constraint that nonprofits not distribute profits to owners places a direct limitation on the variability of Daft's (1992) goals and strategy dimension. While even business organizations have goals beyond profit-seeking, to the extent that nonprofits can't, by definition, seek profits as a primary goals, the other goals encountered and strategies selected take on greater importance and impact in the nonprofit sector.

Mintzberg's (1979) power contextual dimension is directly impacted by the private and self-governing restrictions placed on nonprofit organizations by the structural definition. To the extent that this power dimension is defined by Mintzberg as demands from external controls (p. 290), the requirement that nonprofits be independent and private places constrains on where such demands can be expected to originate. In fact, the requirement that nonprofits emphasize voluntary components will be expected to place much of the power that might have been expected in the business sector to rest on

owners in the hand of the volunteers. If volunteers in the nonprofit sector are viewed as analogous to employees in the business sector, then such a shift in power makes the nonprofit sector fundamentally different than the business sector; even for organizations in each sector serving similar purposes.

Nonprofit Organizations

The chapter on organization theory in the breadth component closed with a discussion of variables in the analysis of organizations. Structural dimensions were indicated to serve as dependent variables, and dimensions that define an organization's context were indicated to serve as independent variables.

In studying organizations, the actual structure of any particular organization (dependent variables) is contingent upon the context in which it occurs and operates (independent variables). Considering such a model using the dimensions discussed above; goals and power are the significant independent variables constrained by the structural definition of the nonprofit sector. All nonprofit organizations will share these contextual constraints.

The breadth section also closed by outlining Mintzberg's (1979) four intermediate variables that mediate between these independent and dependent dimensions: 1) work comprehensibility, 2) work predictability, 3) work diversity, and 4) response speed required. (p. 221-223) None of these four intermediate variables are impacted or constrained by the definition of the nonprofit sector using the structural viewpoint.

The dependent structural dimensions are constrained or limited as discussed above. Nonprofit organizations will present themselves within a narrower range of formalism, hierarchy, professionalism, personnel ratios, groupings, size, and liaison drivers than organizations otherwise widely and generally described by the dimensions outlined in the breadth component.

The study of nonprofit organizations under the structural definition becomes a subset of the study of organizations generally. Study is limited to organizations that: 1) have been appropriately limited in independent dimensions according to the structural definition of nonprofits; 2) are mediated by factors that bridge context to structure, and 3) that result in organizations that continue to conform to the structural definition of nonprofits after such mediation. Organizations that conform to (1) but not (3) are not nonprofit organizations, even though they originated from a nonprofit-consistent contextual scenario.

While the structural definition of nonprofit organizations constrains several of the dependent and independent variables available for study, it actually leaves the majority of the dimensions presented in the breadth component untouched. This is an indication that nonprofit organizations can be included in many studies and discussions of organizations generally when the dimensions of interest are other than those few constrained by the structural definition.

Nonlinear Dynamics

The independent and dependent dimensions of organizations described above represent an open system subject to the dynamics described in the previous chapter. Chaos theory anticipates that such open systems will be observed to carry out self-organizing behaviors and embody self-similar structures describable as fractals.

Wheatley's (1999) discussion of vision and mission as the few guiding principles around which such organizations will self-organize is likely characteristic of most organizations; but the emphasis in the nonprofit sector on goals and strategies as the key defining independent variable enhances the power of this chaotic model. Organizations in the business and government sectors will be expected to exhibit similar affects, but the quantitative nature of profit-driven activities is likely to reduce the effects. Because the vision and mission play such a predominant role in defining explicitly nonprofit

characteristics, one might expect these effects to be more pronounced for nonprofit organizations. In other words, the self-organization around mission will seem more impactful in the nonprofit sector than in others. This might be rationalized because of the simple emphasis on accounting profits in the business sector, and on bureaucratic controls in the government sectors. Further research is required to determine the viability of such a conjecture.

Likewise, Mintzberg (1979) predicted that organizations need to allow for emergent properties of their environments as they self-organize around these few guiding principles; allowing for "realized patterns not expressly intended." (p. 25) Wheatley's discussion of relationships among stakeholders as hidden force fields guiding the organization might work to further explain such emergence. If individuals self-organize around the few basic ideas represented by the organization's vision and mission, and that vision and mission are clearly articulated and communicated, one should observe such emergent organizational structures in the organization.

Anderson's (1999) discussion of catastrophe theory indicates that the variation in vision and mission input can be extremely small and yet give way to significant differences across organizations. If reinforced by feedback loops; Bate, Khan, and Pye (2000) indicate that the open system will continue to behave as an adaptive system; matching its complexity with the complexity of its environment.

These effects are unlikely to be unique to the nonprofit sector. Anheier and Seibel (1990) note that nonprofit organizations can exaggerate aspects of organizations that are common across all types of organizations; while the overwhelming priority of the profit-motive in the business sector can hide some of the expected effects. In that light, study of the nonprofit sector will help in understanding the sector; while possibly informing on organizations in general through extrapolation to other sectors. Nonprofits, then, can serve as a laboratory for modeling and understanding all organizations. The depth component

of this KAM seeks to explore such modeling for a small set of specific nonprofit change-related interventions that have already occurred, and that can provide a lens to evaluate the efficacy of the ideas presented above.

Social Sector

As a footnote to this discussion of nonprofit organizations; Drucker notes that organizational theorists do a great disservice to the organizations being discussed, and their purposes, by continuing to refer to the sector as the nonprofit sector; or not-for-profit sector. He laments that the definition of a sector that accounts for roughly one-third of the world's economy should be defined by what it isn't, rather than by what it is. (personal communication, November 8, 1993).

Drucker (1990) attempts to place nonprofits into perspective by challenging our traditional notion of the nonprofit organization. Rather than a negative definition (e.g. not-for-profit) Drucker seeks to define what a nonprofit organization actually is. Businesses supply goods and services, giving a clear positive definition of the business sector. Government furnishes controls. "A business has discharged its task when the customer buys the product, pays for it, and is satisfied with it. Government has discharged its function when its policies are effective." (p. 30)

A nonprofit organization isn't described by the business or government models. "It's 'product' is neither a pair of shoes nor an effective regulation. Its product is a *changed human being*." (p. 32, emphasis in original) In October 1990, Drucker and several of his colleagues, announced the formation of the Peter F. Drucker Foundation for Nonprofit Management; the mission of which is "to lead social sector organizations toward excellence in performance." The Foundation places emphasis on working in the "social sector," changing individuals in ways not obvious to organizational consultants who are focusing on the nonprofit sector. Most of the literature has not adopted the use of social sector

terminology; and so this note is offered as a closing comment on the direction in which future literature and research is expected to move. Materials and guidance from the Drucker Foundation were instrumental in the cases offered in the application component below.

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WALDEN UNIVERSITY

Core Knowledge Area Module 3:

Principles of Organizational and Social Systems

AMDS 8332 - Professional Practice and Organizational Systems

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Chapter 1

Introduction

Ahrne (1994) has noted that there has been very little research conducted on decision-making in nonprofit associations. (p. 68) The depth component of this KAM developed a framework within which such decision-making can be viewed. That model indicated that nonprofit organizations can, in most respects, be viewed and understood using traditional or general organization theories. However, there were also sufficiently unique aspects of nonprofits to justify treating them as an isolated subject for study. The structural definition of nonprofits provides measurable criteria for analyzing and categorizing their actions and behaviors that might be predictive of their successes or failures in attempting organizational change.

Objectives

This application component explores the viability and usefulness of that model using a small collection of case studies from my own experience as examples against which aspects of the model can be compared.

Specific application objectives are:

1. Compare and contrast the above KAM results with my actual experiences as a strategic change agent for the National Space Society in the early 1990's; discovering various explanations, using the organizational and systems framework developed above, that illuminate my positive and negative experiences during that NSS tenure.

2. Compare and contrast the above KAM results with my actual experiences as a strategic change agent for the Shriners Hospitals in middle 1990's; discovering various explanations, using the

organizational and systems framework developed above, that illuminate my positive and negative experiences during that Shriners tenure.

3. Compare and contrast the above KAM results with my actual experiences as a strategic change agent for the Software Division of the American Society for Quality in the late 1990's; discovering various explanations, using the organizational and systems framework developed above, that illuminate my positive and negative experiences during that ASQ tenure.

To the extent that such comparisons are illuminating, it would indicate that further controlled research is desirable into the structure and characteristics of the structural definition model.

Methods

Each of the cases included in this application component were actual interventions that I personally conducted. They were initiated and completed, in their entirety, prior to beginning work on this KAM. As such, they are opportunistic. Rather than a random sample of organizations, they explicitly represent organizations in which I was already involved, and so share characteristics based on my personal interests and inclinations as a volunteer.

Likewise, I have no formal training or expertise in the disciplines used during these activities. I was driven more by my passion and interest in the missions of the organizations involved than by any procedural formalism. As a self-taught volunteer though, I conducted personal research into techniques in the planning arena in which I was attempting to help. Overall, my volunteering was aided by readings related to Action Training & Research, Future Search Conferences, and materials from the Drucker Foundation for Nonprofit Management.

Action Training & Research

Bruce and Wyman (1998) describe the Action Training & Research (AT&R) approach to fostering and managing participatory organizational change developed by Neely Gardner in the National Training and Development Service in the 1970's. AT&R takes a facilitative approach to working with organizations that is highly focused on change, is organic in the sense that change emerges from the AT&R process rather than being driven by it, and it is collaborative. Working with organizations using the AT&R approach involves working extensively with people throughout the entire organization. It juxtaposes management-centered change with participatory-driven change. It presumes that organizations don't change; only the individuals in them do; echoing the idea that individuals can self-organize around relatively few basic principles and ideas when collaboratively and genuinely produced.

A change agent working with the AT&R process approaches an intervention using a two-phased approach (Table 6) that involves research into the culture and problems of the organization followed by helping the organizational stakeholders take action to implement change.

Table 11 - AT&R Two-phase Cycle

Research Phase
18. Orientation
19. Contract-Compact for Learning
20. Reconnaissance
21. Problem & Opportunity Identification
22. Aspirations
23. Analysis for Strategic Action Options
Action Phase
24. Experiment
25. Test Results Analysis
26. Program Design
27. Implementation
28. Program Evaluation
29. Re-cycle

Note: Adapted from Bruce & Wyman (1998) (p. 21)

As a grass-roots volunteer, I typically found that the orientation stage of AT&R was implicit in my involvement in the organization. Also, while I often worked with high-level staff within these organizations, I was not personally involved in the implementation steps that came out of these interventions. My involvement typically concluded during the program design stage of activities.

Future Search Conferences

Weisbord (1993) and Weisbord and Janoff (1995) describe the concepts and processes that they have developed for conducting Future Search Conferences in which all of the stakeholders of an organization are brought together for a two or three day retreat to identify and explore their collective future. The emphasis of their process is to get the entire system into a single room together and then explore global issues and trends that might affect their organization before focusing more narrowly on the future of the organization. Central to their approach is the development of common ground among

stakeholders. All participants must buy-in to the results even if it means that only narrower or more limited results are possible.

Table 12 - Search Conference Process (Weisbord, 1993)

1. World Trends
2. Trends That Affect X
3. The Evolution of X
4. The Future Design of X
5. Strategies

None of the cases described below explicitly used the future search format; but all were highly informed by the process and its values. The bringing together of all stakeholders to explore common ground is an approach that has even spilled over into my professional practice as a software engineer. Where the traditional approach in the information technology field is to bring together small groups of 8-12 people to conduct requirement sessions, I have more commonly started bring together much greater numbers — sometimes hundreds of people — and found that the results and buy-in achieved are extraordinary. Jacobs (1994) describes a similar capability and trend toward large-group interventions in the business sector.

Drucker Foundation

The Drucker Foundation for Nonprofit Management offers a self-assessment planning process for strategic change. (Rossum, 1993) It is centered around asking five key questions (Table 13) that help define the mission of an organization through a definition of its customers, and the values that those customers hold.

Table 13 - Drucker Foundation Strategic Questions (Rossum, 1993)

1. What is our business (mission)?
2. Who is our customer?
3. What does the customer consider value?
4. What have been our results?
5. What is our plan?

These questions, and the workbook format and structure in which the Drucker Foundation provided them, provided the centerpiece to the methods using in these case studies. The questions also align strongly with the perspective taken by individuals in my profession; quality management. Although I am a software engineering quality specialist, the Drucker concepts mapped well to my professional skills, allowing me to draw upon a larger reserve of personal competencies and experiences.

Case Studies

Stephen R. Covey (1989) speaks of defining all of the roles that one plays and then working to assure that time is spent appropriately across those roles. Creating my own business back in 1988 provided me with the discretionary time needed to pursue non-business roles. My personal mission statement included working to make society better through volunteering and activism. But once I had the time and resources to make some kind of contribution to society, what would my roles be? What could I spend my time doing if I wanted to fulfill my mission? What activities were important to assuring maximum opportunities in the world of the future? And of all the possibilities, which ones would mesh well with my skills and interests?

I believe that opportunities for everyone will be severely limited in the future if something isn't done to better support our global environment. I believe that disarmament and an end to arms

proliferation are necessary to assure future opportunities. I believe that science can lead to expanded opportunities for new and exciting lifestyle choices in space and under the sea. I believe that people must maintain and expand their civil liberties to take advantage of all of these things. And I believe that everyone needs to be better educated in the ideas and disciplines needed to thrive in this exciting world of the future.

Over the past ten years, I've spent considerable time experimenting with roles that I could play in these areas in order to fulfill my personal mission. In order to leverage my time, I've become active in numerous nonprofit organizations and societies that target my areas of interest and supplement my available expertise and resources. With my consulting background, and experience in business strategic planning, I have often gravitated toward volunteer positions within many of these nonprofits oriented toward strategic planning at grass-root and organizational levels.

Based on my experiences in these organizations, I am able to present several of my interventions here. Miles & Huberman (1994) explain the role of case analysis: "One aim of studying multiple cases is to increase generalizability, reassuring yourself that the events and processes in one well-described setting are not wholly idiosyncratic. At a deeper level, the aim is to see processes and outcomes across many cases, to understand how they are qualified by local conditions, and thus to develop more sophisticated descriptions and more powerful explanations." (p 172) The case studies outlined in this application component are a direct result of my own activities, and hopefully will lead to those explanations:

1. National Space Society. I served as a volunteer strategic planning facilitator for the Society during its activities leading up to the organization's twentieth anniversary in 1995.

2. Shriners Hospital. I work as a volunteer in the administrative function at the hospital in Tampa, Florida, and was invited to facilitate planning sessions after getting to know the Executive Director through ad hoc interactions during my volunteer duties.

3. ASQ Software Division. I served as strategic planning chairperson in the Division's executive council from 1994-1998.

My entry into the AMDS program at Walden in 1999 was a direct result of experiences like these, and my desire to do broader and deeper work in the social sector in the future. The social activism aspect of Walden's vision connected with my desire to do more.

Chapter 2

Case Study: National Space Society

NSS Background

The National Space Society was formed in 1975 by the merger of the Washington, DC based National Space Institute, and the Houston, Texas based L5 Society. The Society is a grass-roots organization dedicated to "creating a spacefaring civilization." It holds an annual conference for space enthusiasts and published a monthly magazine, Ad Astra, as a member benefit to its 25,000 members.

Operationally the Society runs under a federalized structure. There is a national organization, based in Washington, with a small professional staff and Board of Directors. There are also thirty regional or local chapters that operate independently of the national body through the world. Chapters are only nominally associated with the national body. Control is arms length; which is sufficient except in times of crisis.

Alignment with Structural Definition

The National Space Society clearly fits the five dimensions of the structural definition of a nonprofit organization established in the depth component. The Society is formal; a legally incorporated nonprofit organization operating in the District of Columbia. It operates privately; receiving no government funding and having only liaison attachments to NASA. There are no profits to distribute; the annual operating budget typically expending more than 95% of member dues collected. The Society is self-governed by an elected grass-roots Board of Directors and Board of Governors; and is almost completely operated at the national and local chapter levels by volunteers. There are approximately 25,000 voluntary members; the majority of whom are simply payers of dues; and a minority (around 5%

in 2000) actively volunteer at the local level. The central staff of professional managers and administrators consists of only a handful of individuals (six as of 2000).

Action Intervention

My activities in the Society passed through a series of levels in the organization. It started through my membership in its local Orlando, Florida chapter in 1991. I had been a member of the Society for years; but my involvement was limited then to paying annual dues and receiving the bi-monthly magazine. At the local chapter level, I started attending monthly meetings and getting myself more involved in chapter activities and outreach programs.

During late 1992, I conducted a series of strategic planning meetings for the local chapter members in Orlando. The process used was based on pre-release version of the question-based technique being developed by Rossum (1993) at the Drucker Foundation. Results were extremely positive; enough so that I was asked to run a similar set of workshops for other Society chapters at the Society's national conference in Huntsville, Alabama, in May 1993. I ran those sessions and, at that time, the process I was using caught the attention of Society members active at the level of the Board of Directors. I was asked to offer a presentation on the methodology at the Board of Directors meeting in Washington, DC, in December 1993.

At the request of the Board's Executive Council at that presentation, I planned and scheduled a group strategic planning retreat to be held by spring 1994; early enough to result in action items that could be effectively pursued by board members before their annual meeting and convention at the end of May 1994. The session was held at the Coolfont Resort in Berkeley Springs, West Virginia on the weekend of March 4-6, 1994. The objectives of the retreat were:

1) To establish a constancy of purpose for the National Space Society through development of a mission-focused perspective on our programs and processes.

2) To begin to use their mission-focused perspective to guide our long-term and short-term decision making and action planning.

3) To plan some initial actions that would be required during 1994 to improve the operating focus of the NSS, including communicating their new perspectives to Chapters.

Twenty-four people from throughout the Society participated in this intensive three-day planning session. Key participants included the Chairman of the Board, Buzz Aldrin; President, Charlie Walker; Executive Director, Lori Garver; Executive Vice President and Chair of the Policy Committee, Glenn Reynolds; and Program Director, David Brandt. Other Board members represented the various regional chapters and national committees of the society.

All participants received a copy of the How To Assess Your Nonprofit Organization With Peter Drucker's Five Most Important Questions (Rossum, 1993) workbook from the Drucker Foundation in advance as session pre-work assignment. The three-day agenda, also distributed in advance, was built around the five questions in that workbook (see Table 13 on p. 6).

The retreat was a success, meeting or exceeding participant expectations; and resulting in a new set of vision and mission statements for the Society. At the Toronto meeting in May, these new statements were presented to the Society membership and approved for incorporation into the Society by-laws. I facilitated additional sessions at that time to develop specific Society medium-term goals; something that had never been done within the Society up to that time. I spent the last months of my involvement documenting and communicating the results of these activities to the Society membership. (Biehl, 1995)

Results & Aftermath

The most significant thing to come out of the Society's strategic planning was a new clarity and direction for the Society with respect to its vision and mission. For almost twenty years, the phrase "creating a spacefaring civilization" had served as both vision and mission for the Society. The statement carried emotional appeal for all stakeholders, but was ambiguous enough that it had always failed to inspire or guide any specific actions. Virtually any pro-space individual could agree with the statement, and yet still have no idea what the Society was really about.

As a result of this intervention, the Society split and rewrote its vision and mission statements. The new vision was "People living and working in thriving communities beyond the Earth," and the new mission statement was "to promote change in social, technical, economic, and political conditions to advance the day when people will live and work in space." The two separate statements were related, yet different. The vision was a statement of how the world would be in the future; the mission was how the organization would contribute to that future. These statements support Drucker's (1990) contention that the vision and mission must be related yet distinct. Each serves a different purpose. The original vision of creating a spacefaring civilization was retained as a Society sound bite.

An immediate impact in the Society was that the reduction of ambiguity in the vision and mission actually surfaced frictions and tensions that had always existed within the organization but that had been hidden behind the ambiguity of the vision sound bite. These frictions originated back in the original merger that had created the Society. A fundamental difference between the two organizations that had merged to form the National Space Society had been timeframes.

The National Space Institute constituents were very interested in the eventual movement of humanity into space. Constituents from the old L5 Society were committed to actually personally living

in space. The much used phrase was "in our lifetime." The original intent of the L5 Society had been to actually convene a meeting of members on board a major occupied space station and disband the organization. The new Society vision and mission were much more aligned with the eventual movement into space; making L5-holdovers uncomfortable. They objected to what they perceived as a fundamental shift in the Society's purpose. The problem had been latent in the organization for almost twenty years; and only now surfaced as the more explicit vision and mission were articulated.

For the most part, these frictions eased over the next couple of years. L5-holdovers gradually admitted that there was little possibility that they were ever going to personally live in space. Many were in their late 50's. The Society's vision and mission had nothing to do with the eventual realization that they were not going to get into space themselves. The Houston NSS chapter though — the home territory for the original L5 Society — actually ceded from the National Space Society; unable to come to terms with the Society's newly stated positions.

The reduced ambiguity had two major affects within the Society in the coming years. First, the mission statement clearly articulated the types of things that the Society should be working toward. New committees, task forces, charters, and by-laws became common for actually getting to work in the areas social change and outreach, technical research and education, economic development, and political support and activism. Individual members could now gravitate toward those work areas in which they had the greatest interest. The Society was no longer a large club of space enthusiasts talking to each other. It was a working organization with a series of jobs to do; all focused toward the vision and mission.

Second, the clarity provided by the revised vision and mission empowered the Society's Policy Committee to be able to articulate specific and powerful Society positions on a wide range of space-

related issues. New policies on space transportation, legal and property issues, political action, ethics, and other concerns came out of committee regularly for several years. Opportunities for Society members to testify before Congress went from one or two a year up to two to four a month. The Society suddenly had a purpose; and a message to go with it. The Society had a new strategic focus that it had lacked for the first two decades of its existence.

During these initiatives at the national level; local chapters were encouraged to investigate and develop their own sense of vision and mission; even if different from the national versions. Our sessions in Orlando developed such a mission statement; different yet compatible with the national program. It stated that the mission of the chapter was "to foster public demand for progressive human space exploration and development in support of a space-faring civilization." While compatible with the national mission; the explicit focus on demand-side thinking helped solidify the thinking within the Society on the roles of the chapters and headquarters organizations. The national Society shifted focus toward supply-side issues like technology, public policy, lobbying, etc; while the chapters focused on demand-side issues like education, activism, and outreach. These two perspectives came to be seen as mutually supporting and reinforcing. The chapter also developed a goal related to socializing ("provide an opportunity for space enthusiasts to explore ideas and share information.") that never showed up in the thinking at the national Society level. Giving the local chapters explicit responsibility within the Society vision; the friction they experienced with the national headquarters diminished. Each organizational component came to see the other as complimentary.

Chapter 3

Case Study: Shriners Hospitals

Shriners Hospitals Background

Shriners Hospitals (formerly Shriners Hospitals for rippled Children; the name was changed shortly after the planning sessions described below) exist to offer free pediatric care to children who can benefit from their services. Their specialty has always been the operation of 18 pediatric orthopaedic hospitals, with three burn units added in the past fifteen years. All services are free of charge to all patients, regardless of family income. Many patients visit one of the hospitals for only a few weeks to have a relatively minor condition treated; while others might live in one of the Shriners hospitals for years.

One of the eighteen surgical hospitals is in Tampa, Florida on the campus of the University of South Florida. Know as the Tampa Unit, the hospital does surgeries on some 500-600 children each year. It was in the Tampa Unit that this intervention occurred.

Alignment with Structural Definition

The Shriners completely fit the five dimensions of the structural definition of a nonprofit organization developed in the depth component. They formally exist as an incorporated nonprofit operating out of a headquarters facility in Tampa, Florida. They receive no government funding of any kind; relying exclusively on personal donations and fundraising activities of the Shriners members across the country. There are no generated profits in any year; thus no profit distribution is possible. All excess revenues are channeled into the hospital operations endowment fund. The organization is run by Board of Directors made up of elected members from the Shriners membership as well as selected individuals from the private and government sectors. These external individuals are included on the

Board as individuals; and they do not represent the organizations or agencies for whom they work. Most are retired. While the hospital system employees and extensive medical and surgical staff; the majority of the activities of the Shriners system are carried out by volunteers at the hospitals and local Shrines.

Action Intervention

My involvement at Shriners Hospital Tampa Unit began as an administrative volunteer in the middle of 1995. Through my volunteering I was able to get to know John Holtz, the hospital's senior administrator. Our early conversations led to a common thread of interest based on my interest in nonprofit strategies and his interest in conducting some organization-wide planning activities in preparation for the hospital's next major certification audits coming up in late 1996. The demographics of the Shriners and their target service base were changing in ways that required major rethinking of how the hospital work, how it identified patients, and how it served its overall community. John and I had several conversations where we discussed Weisbord's (1993, 1995) Future Search Conference process; and in early spring 1996 we decided to give it a try at the hospital.

Shriners Hospitals had conducted extensive strategic planning sessions throughout 1994-1995, resulting in a renewed set of vision and mission statements. The vision stated that the hospital "is committed to excellence in specialized pediatric care with emphasis on orthopaedics, education, and research." The heart of the mission stated that the "hospital is a center of excellence providing the highest quality patient care at no charge, utilizing state-of-the-art technology, knowledge, research, and resources." Previous work had also articulated and defined eight core values: 1) communication, 2) compassion, 3) environment, 4) community, 5) cultural sensitivity, 6) family-centered care, 7) teamwork, and 8) quality. The challenge facing John in early 1996 was in how to implement that

strategic direction across and throughout the organization. The future search format, in which all stakeholders would be brought together to self-design their own organization direction, seemed natural and empowering to John and his perception of the culture and environment he was trying to foster at the hospital.

It turned out that bring everyone together at one time for such a session was not possible. The active operation of a hospital with 50-60 occupied in-patient beds and 10-15 surgeries a week simply precluded pulling all staff members off their jobs to attend the session. Instead, two more-or-less identically organized two-day sessions, in which roughly half the staff participated in each, were held in May 1996. The output of the session became the organization's view of how to implement the Shriners' strategic direction.

Results & Aftermath

The most obvious immediate impact of this intervention in the life of the hospital was an increased awareness of the vision and mission statements on the part of everyone who participated. The statements had been around almost a year at the time of the sessions, and yet few participants claimed to be familiar with their contents prior to these sessions. Each statement was multi-pronged: care, education, and research. Participants in these session typically reported seeing themselves working in one of two of these prongs. Nursing and surgical staff typically associated with the care aspect of he vision and mission. The research and development staff typically associated with the research aspect.

The education piece of both the vision and mission drove a great deal of discussion from both sides. Everyone participated in discussions on the role of education in the hospital, and each individual's responsibility to contribute to that aspect of the mission. Discussions ranged from how to

increase communication of findings throughout the medical community to how to better enable family-centered care through offering more education directly to the patients and their families regarding care in the facility. Education discussions also crossed over into the discussion of outreach that tended to dominate the latter portions of each session.

Outreach was never a traditional part of the Shriners process. Patients had always been identified and approach directly by Shriners who personally found or heard of needy cases in the communities. At the post-war peak in mid-century, there were seven million Shriners in America; more than enough to actually spot or hear about most of the "crippled children" throughout the country. Today, there are almost two million fewer Shriners; and they simply don't have access to every aspect of American society that they once had. Also, the range of conditions that can be helped by the Shriners system has expanded to include conditions not necessarily obvious to individuals outside of these children's families.

These sessions identified that the trend the system was experiencing toward underutilization of resources was serious. Many of the individual hospitals had empty beds. Demand for Shriners services were less than their available supply. The old network of Shriners personally identifying new patients simply wasn't keeping the hospital beds utilized. New paths for identifying patients were needed.

Teams working in these sessions identified many opportunities to expand their programs through additional outreach and education. The hospital installed an "800" number, with a supporting marketing campaign, so that parents of potential patients could identify themselves. Other outreach programs were identified to work through school nurses, social workers, the courts; anywhere that a child in search of Shriners care could be identified and brought into the system. Today, these programs have

been put in place. The Shriners still personally identify and screen candidate patients; but they are no longer the exclusive channel for intake.

Chapter 4

Case Study: American Society for Quality, Software Division

ASQ Software Division Background

The American Society for Quality (ASQ) is the largest professional society in the world dedicated exclusively to quality issues and quality management. Originating in the strong post-war quality control movement of the late 1940's, the Society today has over 125,000 members worldwide. The Society supports a series of individual Divisions, functional or disciplinary specialties that allow members to work in specific areas that they perceive of value. A typical Society member joins the Society itself, and usually one or two of its specialized Divisions.

The ASQ Software Division is the specialty division devoted to the quality of software and related issues. The Division was formed in 1990 from a seed group known as the Software Special Interest Group within the Software Management Division. Today the Division has just over 6,000 members.

Alignment with Structural Definition

The Software Division basically fits the five dimensions of the structural definition of a nonprofit organization developed in the depth component. Weaknesses consist of the fact that the Division is a component of a larger organization, the Society, thus not being completely independent. However, since the Society as a whole clearly aligns with all five dimensions of the nonprofit structural definition, those specific dependencies at the Division level are not material to the use of the Division activities in this case study.

The ASQ Software Division is formal; defined by a set of structured by-laws within the larger nonprofit corporate Society structure operating out of Milwaukee, Wisconsin. The Division receives no

government or private sector funding; although a portion of the revenue generated by the Society come from government contracts. For example, the Society operates the Baldrige Award program for the National Institute of Standards and Technology under government contract from the Department of Commerce. These types of contracts are arms length agreements that give the agencies no authority to dictate internal Society management; and so private nature of the Society and its Divisions remains.

The Division is self-governing; with Executive Board members elected or appointed (depending on position) from the Division membership. There are no excess revenues; and no provision for distribution of such revenues should they exist in the future. All activities of the Division are operated using voluntary labor and resources.

Action Intervention

My involvement with the Software Division was formal; I was appointed to the Executive Board to serve as strategic planning chairperson from 1994 through 1998. In that capacity, I was able to facilitate formal strategic planning sessions and workshops with Board members semiannually. Throughout that tenure, I used the Drucker Foundation materials and processes heavily.

Results & Aftermath

The various session that I held for the Division leadership and members had a very dramatic impact on the perception of the mission of the organization over time. When the intervention began, the Division had a mission statement: "To improve the quality of software and increase customer satisfaction by identifying, developing, communicating, and promoting the use of quality principles, concepts, and technologies." Everyone who participated in my sessions agreed with, and believed in, the mission; and yet nobody seemed able to operationalize it into a program to be carried out. Simply put, no one knew what they were to do.

During this intervention, particularly at the membership's annual conference in San Antonio in October 1995, it became apparent in the various discussions that the mission statement was wrong, or at least misguided. The focus on the improvement of software quality was what our membership was after. It was *their* mission, not *ours*. The Division's mission was attempting to assure something that was completely beyond the control of the Division. One couldn't volunteer time to the Division and implement the mission. Making someone else's software of higher quality was simply beyond the Division's control. Instead, discussion refocused on how to enable the membership to accomplish their own mission. As put by Drucker (1990), the output of a nonprofit organization was a changed individual. The Division developed a new mission statement: "To improve the ability of individuals and organizations to satisfy their customers with quality software products and services through education, communication, research, outreach, and professional development." The mission has shifted from the quality of software to the competencies of members. We would change people; and *they* would improve the quality of software.

In addition to taking the Division off the hook for something it couldn't directly deliver, the new mission statement articulated five specific areas in which work and effort could be focused. The Division structure was changed to realign resources and programs with these five areas. Activities and programs not attributable to one of these five were scaled back or abandoned. Division members now receive services under the umbrella of these five programs, and volunteer hours have more than tripled; attributable at least in part to the availability of specific programs to volunteer for.

Division membership has increased by 50% in the past three years; and the Society launched a new professional certification in 1997, the Certified Software Quality Engineer, developed by the Division's professional development program. The Division started publishing its own peer-refereed

professional journal in 1998, Software Quality Professional; an outgrowth of the research and communication programs of the Division. The Division education program now develops software quality training programs that are available and offered to all Society members around the world. The Division has become the fastest growing cross-disciplinary group within the Society; and commonly today designs and participates in activities that would have been unthinkable just a few years ago.

Chapter 5

Conclusion

The organizations in all three case studies saw dramatic changes in organizational behavior after the creation and communication of revised statements of vision and mission. In each case, little specific action was taken to drive such behavior changes. The majority of the actions and behavioral changes were self-generated, self-organized, across and within the organizations. Such actions are predicted in the literature; and yet the management teams for whom I facilitated these interventions did not anticipate nor expect such outcomes. In all three cases, management had expected that much more work and activity would be needed to implement programs around the revised vision and mission statements.

These results are anecdotal; a reflection of activities carried out in the past. Yet the differences across these organizations — a large grass-roots advocacy collective, a major surgical health care hospital chain, and a large international professional society — along with strong support in the literature, might indicate that the self-organizing character surrounding effective vision and mission activities can be propagated to more organizations.

The use of increased emergence through dialogue is Pålshaugen's (1998) point when he questions whether we have reached the end of organization theory. He wasn't actually calling for an end to the study of organization theory; rather he calls for a shift of organization development away from academics and consultants and toward active dialogue within organizations. Stakeholders talking to each other, and achieving actual change; as in the case studies above.

Annotated Bibliography Alignment

The federal structure and operation of the National Space Society offers an example of many of the points related to complex adaptive systems raised by Anderson (1999). Local chapters operate

with their own schemata, and communicate with each other independently of the national structure. Anderson notes that the system changes as these independent agents arrive and depart, as with the departure of the Houston chapter from the Society during the conflict over time scales associated with the Society mission. Anderson describes these agents self-organizing with imported energy, often in the form of information. Within the Society, the national headquarters often performs the function of sharing information across the chapters in order to stimulate activity and jump-start programs. Anderson suggests that leaders of such organizations will optimize performance if they work to allow local agents as much freedom to self-organize as possible; explaining the success that was achieved in the relationship between the national headquarters and local Orlando chapter when the chapter was encouraged to do its own strategic planning and develop a vision and mission slightly different that the ones developed by the Society.

The original merger that formed the National Space Society likely illustrates the principles laid out by Barnett, Mischke, and Ocasio (2000). Both the L5 Society and the National Space Institute were specialized collectives relative to the aggregated Society that was created by their merger. The growth of such collectives is a social matching process where prospective members seek out organizations that will meet their own needs. Broad merely satisfactory organizations such as the National Space Society are likely to be notice and joined more easily that either smaller more specialized organization specifically. As organizations grow more general, the likelihood of them increasing their membership grows. As a result, aggregation of collectives into larger more generalized organizations is a predictable ecological outcome for organizations competing in similar market spaces. The two precursor organizations were similar enough that potential members were unlikely to join both; and with the merged organization taking on a generalized mission, even more were likely to join. In this

way, Barnett, Mischke, and Ocasio predict that the Society would be more than the simple sum of its parts; the L5 Society and the National Space Institute.

Barnett, Mischke, and Ocasio's discussion of collective growth rates also explains the dominance of the American Society for Quality in its market. They found that collective members will rarely innovate (e.g. found a new collective) when there already exist collectives that satisfy the anticipated need, even weakly. General collectives are more likely to be perceived as satisfying a broad range of needs. This affect is particularly strong when the general collective is an early entry in the market space. ASQ was the first society of its kind ever formed in the quality arena. From the start it has been very general. It's internal structure of using functional and disciplinary divisions to provide service to members has allowed it to offer specialized activities without sacrificing its overall general coverage. For this reason, one could predict that the Society would grow to dominate its market; which ASQ has. The Software Division is a specialized response to the growth of competing collectives in this particular niche. The advent of the Division drove many smaller competitors from the market because, as Barnett, Mischke, and Ocasio predict, the larger general collectives tend to persist and dominate.

Bate, Khan, and Pye (2000) discussed culturally-sensitive restructuring (CSR), the idea that simply changing the structure of an organization usually fails to achieve desired levels of change while attempting to change organizational culture alone is plagued with similar problems. CSR involves both structural designing and cultural development approaches to organizational change; and is descriptive of all three cases discussed above. All three organizations developed structural changes as a result of their interventions; most significantly in the NSS and ASQ scenarios. Also, each experienced cultural change; strong friction as experienced in NSS, and the general increased proliferation of thinking about the educational aspects of everyone's jobs at Shriners. The common thread to both types of change in

all three organizations was the creation of revised vision and mission statements. Even in the Shriners case, where the new vision and mission statements were created prior to the session, failure to communicate those statements throughout the organization meant that they were effectively created in the start of the group sessions.

To the extent that these cases represent examples of CSR, the interventions themselves typically covered only the first two of Bate, Khan, and Pye's four phases: cultural framing and soft structuring. The group sessions were designed to gain awareness of broad group cultural issues and to discuss opportunities and trends. The groups then had to deal with discomforts or any dysfunction that arose during such activities. The actual implementation of ideas generated by the group, the hard wiring phase, was done after and outside of the context of the intervention. Only the ASQ Software Division case was longitudinal, offering me an opportunity to take the organization through multiple cycles. The fourth CSR phase, retrospecting, involved taking the group through an analysis and review of prior sessions before each semi-annual meeting.

Bate, Khan, and Pye report that organizational change using CSR approaches is successful because the changes are created by emergent social order of the group. It is internally negotiated, not externally imposed. All three cases were illustrative of this point.

Boisot and Child (1999) discuss organizations as social systems that adapt to their environments based on the complexity encountered in the environment and the organizations capabilities and preferences for handling that complexity. If the organization tries to force a uniform response to complexity throughout the organization, in spite of the fact that different aspects and parts of the organization encounter different complexities; behaviors can become dysfunctional.

To the extent that different parts of the organization are allowed to develop their own unique responses to the complexities they encounter, a contingency-based approach, the behaviors developed will be locally maximizing. Social scientists will perceive and measure these locally maximizing behaviors as cultural differences. Organizational culture shifts more toward being a dependent variable in organizational analysis. Culture becomes a response by an adaptive system to the complexity triggers present in its local environment.

All three cases above demonstrated different cultural and organizational traits in different parts of the organizations studied. In the case of the NSS, national headquarters and local chapter structures were very different after the intervention; explicitly so because the local chapters were encouraged to develop their own vision and mission statements. What had initially been perceived as a potential source of conflict because a source of complementarity and synergy. The Shriners surgical and research staffs faced very different complexities and pressures; and developed unique yet complementary responses to the vision and mission developed in common.

The NSS case illustrates Boisot and Child's contention that there is a goodness of fit between an organization's preferred approach to seeing the world and the organizational and transactional structures in which it actually operates. The local chapter perception that they exist as a demand-side structure to the national Society's supply-side capabilities allowed each group sub-organizations to optimize their own structure and behaviors; all toward fulfillment of a common vision.

This dual-level organizational interaction illustrates several of the "pink noise" concepts discussed by Dooley and Van de Ven (1999). Organization that propagate standards and policies down a hierarchy experience friction as lower level entities alter or revise such directive to meet local needs. Such friction is viewed as enforcement by lower-level subgroups, and as resistance by higher-

level subgroups. Such organizations will be driven toward chaos as unintended changes introduce further randomness into the system, feeding back to increasing the control mechanisms.

In the case studies above, both NSS and Shriners decrease the levels of such friction by allowing different levels to allow slightly different perspectives on the vision and mission to emerge. As Dooley and Van de Ven predict, these organization see increased synergy and reduced friction. They see that the differences they were trying to control away were not major enough to justify the controls and friction. This is particularly true in the NSS case, where differences between the mission statements at the national and local levels are almost imperceptible to outsiders. Trying to align these two perspectives, though, into a single statement, would have created more friction and discord. Both independent statements were constrained reactions to the same organizational vision; and so were unlikely to vary widely from the central attractor of the system.

The ASQ Software Division case is a good counterexample. The Society headquarters still maintains extensive control over activities at the Division level. The relationship between these two levels of the organization is often contentious; and each side views the other with skepticism and distrust. If some of the controls were simply removed, Dooley and Van de Ven predict — and the other two cases bare them out — the relationship would evolve based on similarities rather than differences. The chaos experienced today would reduce to periodicity, a transactional set of interactions based on common vision; and similar missions.

The impact that the clarification of vision and mission had on the organizational diversity of the NSS serves as an illustration of what Frank and Fahrbach (1999) present as their model for balance and information as influencing organizational equilibrium. Information coming into the organization perturbs its equilibrium, and the organization responds by seeking equilibrium again by having individuals

influence each other around the source of perturbation and select how to respond. The result can be reestablishing the old balance, or a new state of equilibrium; learning.

Frank and Fahrbach suggest that organizations that are highly homogenous prior to be perturbed tend to experience the most dramatic shifts in balance during the selection and influence period. Perhaps this is because any perturbation seems larger in a homogenous environment. Heterogeneous organizations, those with different information and selection patterns, tend to react to perturbation more moderately; again, perhaps because any particular perturbation seems small relative to the level of diversity already present in the environment. As a result of these dynamics, Frank and Fahrbach suggest that — perhaps counterintuitively — heterogeneous organizations will reach consensus and new balance points easier that more homogenous alternatives; the may learn better.

Looking at the NSS case prior to the intervention; NSS was homogenous, at least as represented by its vague and generalized vision and mission. Everyone agreed with these statements more or less equally; if not wholeheartedly. The organization found itself ineffective in its market; able to sustain membership services, but unable to coalesce action toward the mission. After the intervention, the vision and mission were specific. Opinions regarding the efficacy of those statements varied widely. The organization became heterogeneous; with diversity of opinion wider than it had ever been. The departure of the Houston chapter from the Society illustrates the extreme nature of some of those opinions. What remained, though, was an organization of more varied opinions around a shared more concrete mission.

Frank and Fahrbach basically predict that such differences and variation actually increase the chances that the organization will be able to reach consensus and take action on perturbations in the environment. This is exactly what the Society experienced. More debate and discussion, typically

followed by consensus on policy and action for the design of programs. Repeatedly after the establishment of the new vision and mission, programs in the Society that had languished for years became more real and effective. Diversity of opinion had become a driver of learning. The basis for that diversity had always existed in the minds of the stakeholders; but the articulated vision and mission provided the attractor around which such differences could coalesce and take form.

Voss, Cable, and Voss (2000) describe the inherent frictions that ensue when different portions of a nonprofit organization bring stakeholder views into conflict. Vision and mission provide a common framework; and the heterogeneity allowed to exist under that framework can allow different subgroups to focus on their own unique problems and opportunities. Allowing slightly different interpretation of the mission in different groups in the three cases; again, particularly NSS, but also Shriners; helps prevent the conflict that Voss, Cable, and Voss predict can disenfranchise portions of organizations when a single mission and interpretation are enforced. The external constituents of each independent subgroup can interact with the organization in away that is consistent with their needs; while supportive of the common vision and mission. Prior to the intervention described above, the conflict with the way the Shriners organization interacted with medical academia and patient populations created problems that were viewed as inevitable. With the self-organizing adjustments made within the surgical and research subgroups, the problems simply disappeared. In hindsight, everyone recognized that no single set of policies and structures could have adequately met the needs of both of those external constituencies.

Garvin (1998) discussed the role that management should be playing in helping organizations form processes and capabilities; emphasizing process over structure as of key interest. Garvin uses the idea of structure as similar to the vertical and horizontal decentralization discussed above in the breadth component; and so his assertion that structure should not dominate thinking about organizational

improvement doesn't necessarily conflict with the depth component's assertion of the structural organizational definition as being most powerful and useful. The structural definition discussed above uses Garvin's concept of structure as only one of many dimensions of structure. Garvin's recommendation to focus on process is still consistent with this broader structural approach since process technology is included in the structural definition as a dimension.

In asserting the importance of direction-setting in any organization; Garvin emphasizes that management's role is to establish and foster processes for direction-setting; not to directly set direction in a vacuum. These case studies bear out the efficacy of such an assertion. The management teams in all three cases allowed all organizational stakeholders to participate in the defining and emergence of an organizational direction; in the form of revised vision and mission statements. Rather than dictating that direction, the process was supported and allowed to unfold. The organizations acted, through self-organizing behaviors of their members, to construct and adapt their own futures. Tetenbaum (1998) emphasized the importance of allowing organizations to self-organize around a few basic principles, such as the vision and mission statements described in these cases. Each organization above began to immediately see such behaviors after the creation of those statements; always without any specific management direction or mandate.

This complements Mintzberg and Westley's (2000) contention that managers in nonprofit organizations must maintain the institutional environment of the organization; the missionary and value-driven aspects of what makes the organization able to retain the commitment of its voluntary participants and members. The managers described by Mintzberg and Westley spend a considerable portion of their time networking among organizational stakeholders. Much of this ad hoc activity, usually not in the formal job description of management, provides for continual perturbation of the environment; possibly

driving the information and balancing dynamic described by Frank and Fahrbach. Managers keep dynamically providing information to their organizations while, in turn, members of the organization are constantly adjusting to that information through selection an adaptation; sometimes reverting to prior states, but often changing to new equilibrium states. Pascale (1999) emphasizes the importance that such management-initiated perturbation carries in the organization; for organizations — as complex adaptive systems — are most at risk when at equilibrium.

Diversity, or heterogeneity, drive the system toward continual states of natural disequilibrium; allowing the stakeholder to continually reorganize in optimal configurations for the organization's environment at any given time. Mintzberg and Westley's contention is that managers can't drive such actions; and they shouldn't try. No one owns the vision and mission of an organization; and yet everyone does. Managers simply have a role to play in a dynamic that should continue to remain a systemic property, not a controlled action. Pascale points out that management can't directly cause change simply because the cause-effect links in an adaptive system are too weak to be clearly identified, much less managed. Managers simply act in ways that opportunistically and unconsciously result in organizational behaviors that are self-organizing and self-replicating. Nadler and Tushman (1999) treat the same management competency to foster visions and goal-direction in the organization as one of their eight key emerging competencies for management in the twenty-first century. In effect, the management teams in the three case studies did the right things by allowing the visioning and mission-defining activities to proceed; even though they could not foresee the affects that would follow.

None of the three nonprofits described above, particularly the NSS and ASQ cases, described organizations with a great deal of strict procedures and management controls. The NSS, in particular, required a large number of grass-roots activists to carry out activities with few organizational procedures

to guide them. Pearce, Branyiczki, and Bigley (2000) discuss the impact of such insufficient bureaucratization on the performance of individuals throughout an organization. Individuals perform better when there is a perception that everyone is playing by the same rules and are accountable in similar ways.

Pearce, Branyiczki, and Bigley refer to the distinction as universalism over particularism. They point out that Weber's original writings on bureaucracy emphasized both procedural formalism and goal-orientation. Articulating goals; or vision and mission in the context of these case studies; levels the playing field for all participants. Even without the formal procedures typically associated with bureaucracy, a shared sense of vision and mission creating a more universalistic feeling among stakeholders. Everyone is accountable to the same mission, even though few procedures or requirements are placed on their specific actions. They predict the improved organization performance actually observed in all three cases.

Implications for the Social Sector

Burke (1997) argues that organization development must re-emphasize core values such as community, culture, and trust in the face of negative restructuring and downsizing initiatives of the past ten years. He views community as having broken down in the workplace and society at-large. He sees the social contract between employers and employees in the private business sector as having been eroded by shifts toward a contingent workforce. Employees must find what they need in their employment arrangements; or move on to somewhere else. They'll stay where they are most satisfied; part of satisfaction being tied to their feeling that they are making a contribution to something worthwhile.

Such a sense of belonging and community has always been an integral part of the nonprofit sector. The world of volunteers is a world of contingency; of making sure that everyone involved sees value in their participation. There is little to hold a volunteer other than such contingent value.

Many of the organizational theorists cited in this KAM focus much of their attention on the private business sector. Nonprofit literature often emphasizes helping nonprofit organizations adopt and adapt management techniques from the private sector in order to perform better; to increase stakeholder accountability. Nonprofit management is effectively viewed as business management with the profit goal removed. The challenge becomes how to manage what's left. Perhaps everyone has it backwards. What if private business sector management is nonprofit management with a profit goal *added*? How could the nonprofit sector better inform the business sector?

The case studies described above illustrate the organizational power of a shared emergent sense of vision and mission. With vision and mission in hand, people self-organize and adapt their environment to fulfill what they've set out to do. As the structural definition of nonprofits developed in this KAM indicates, profit isn't absent from the sector; it's just treated as a *means* rather than an *end*. The vision and mission statements developed in these cases allowed organizations to allow what they wanted to accomplish to emerge. Even in the nonprofit sector, implementation requires that revenues exceed costs.

Unanswered here is the question of how other sectors can adopt strategies for capitalizing on their capabilities for members to self-organize around clear vision and mission; without the cloud of profit preventing them from seeing in their chosen direction. The question will no longer be: How can nonprofits take advantage of business management techniques? Nonprofits should focus on their own visions and missions; their own competencies. Managers in the business and government sectors

should then be asking themselves how they can be more like the successful nonprofits. Answering such a question will likely be a central theme of my Walden dissertation next year.

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