

Complexity and Management

Fad or radical challenge to systems
thinking?

Ralph D. Stacey, Douglas Griffin
and Patricia Shaw

Complexity and Emergence in Organizations



**Also available as a printed book
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Complexity and Management

There is at present a great deal of interest in understanding organizations in terms of new theories of complexity, self-organization and emergence. Many of those taking up these theories do so in a way that simply presents existing views in new jargon, another management fad. The reason, this book suggests, is that they understand complexity theories solely within systems thinking.

The authors look carefully at the theoretical foundations of the ways the complexity sciences are being used to understand the sources of stability and change in organizations. As well as offering a thorough critique of the different ways in which complexity thinking is being taken up, this book, the first of a series, lays the ground for a new project. This project, which goes to the roots of Western thought, understands organizations as complex responsive processes of relating. It draws on the complexity sciences as a source domain of analogies, interpreting them through a relationship psychology that draws on the tradition of Hegel, Mead and Elias. The authors show how complexity thinking focuses attention on the emergence of genuine novelty in everyday processes of communicative action.

Timely and controversial, this book is essential reading for anyone interested in strategy, organization and management theory, and organizational change.

Ralph D. Stacey is Professor of Management and Director of the Complexity and Management Centre at University of Hertfordshire; **Douglas Griffin** and **Patricia Shaw** are Associate Directors of the Complexity and Management Centre, and consultants to organizations.

Comments on this edition include:

In a world that is discovering the power of the application of complexity theories to the day to day life of organizations, this book offers a solid rock foundation. It gives to all of us as practitioners a language on which to build our specific application of the theory to practice. It is a book that every executive concerned with the sustainability of a corporation's success can use, ranging from .com to traditional government organizations.

Alberto Bazzan, Leadership Development Leader,
World Bank Group, Washington DC, USA.

I think this book represents a remarkable synthesis and depth of reflection. What [the authors] have done in this text is to clarify all the many different strands of work that has been going on by looking at their foundations. They have really encompassed an enormous range of work, both in evolutionary thinking and in management, and explained clearly the fundamental limitations in the approaches.

Peter Allen, Head of Complex Systems Management Centre,
Cranfield School of Management, UK.

This book is the first I know of to step firmly into the new space of creative participation that has been revealed by the Sciences of Complexity, showing clearly why it is necessary to move beyond the limitations of systems thinking in order to engage with the full creative potential of life in relationship. It is a remarkable achievement that uniquely combines the philosophical depth, the psychological insight, and the practical experience that the authors have gained through direct engagement with the issues that puzzle, confuse, and frustrate people working at all levels of corporate life. It is liberating to read a text that tries to make sense of the paradoxes of creative living.

Brian Goodwin, Professor of Biology, Schumacher College, UK.

This series is a thoughtful analysis of the different models we can use to understand how and why organizations work and the implications for leaders. Of value to academics and practitioners, it will really challenge the way you think!

Vivienne Cox, Group Vice President, BP.

Complexity and Emergence in Organizations



Series Editors:

Ralph D. Stacey, Douglas Griffin and Patricia Shaw

Complexity and Management Centre, University of Hertfordshire

The books in this series each give expression to a particular way of speaking about complexity in organizations. Drawing on insights from the complexity sciences, psychology and sociology, this series aims to develop theories of human organization, including ethics.

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The Paradox of Control in Organizations

Philip Streatfield

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Series preface

Complexity and Emergence in Organizations

The aim of this series is to give expression to a particular way of speaking about complexity in organizations, one that emphasizes the self-referential, reflexive nature of humans, the essentially responsive and participative nature of human processes of relating and the radical unpredictability of their evolution. It draws on the complexity sciences, which can be brought together with psychology and sociology in many different ways to form a whole spectrum of theories of human organization.

At one end of this spectrum there is the dominant voice in organization and management theory, which speaks in the language of design, regularity and control. In this language, managers stand outside the organizational system, which is thought of as an objective, pre-given reality that can be modeled and designed, and they control it. Managers here are concerned with the functional aspects of a system as they search for causal links that promise sophisticated tools for predicting its behavior. The dominant voice talks about the individual as autonomous, self-contained, masterful and at the center of an organization. Many complexity theorists talk in a language that is immediately compatible with this dominant voice. They talk about complex adaptive systems as networks of autonomous agents that behave on the basis of regularities extracted from their environments. They talk about complex systems as objective realities that scientists can stand outside of and model. They emphasize the predictable aspects of these systems and see their modeling work as a route to increasing the ability of humans to control complex worlds.

At the other end of the spectrum there are voices from the fringes of organizational theory, complexity sciences, psychology and sociology who are defining a participative perspective. They argue that humans are themselves members of the complex networks that they form and are

drawing attention to the impossibility of standing outside of them in order to objectify and model them. With this intersubjective voice people speak as subjects interacting with others in the co-evolution of a jointly constructed reality. These voices emphasize the radically unpredictable aspects of self-organizing processes and their creative potential. These are the voices of decentered agency, which talk about agents and the social world in which they live as mutually created and sustained. This way of thinking weaves together relationship psychologies and the work of complexity theorists who focus on the emergent and radically unpredictable aspects of complex systems. The result is a participative approach to understanding the complexities of organizational life.

This series is intended to give expression to the second of these voices, defining a participative perspective.

Series editors

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1 Introduction: getting things done in organizations

- **“Getting things done, anyway”**
- **Ways of thinking**
- **Outline of the book**

There is now a growing literature by management thinkers who appeal for insight to developments in the natural sciences of complexity, felt by many to be relevant because they model complex, turbulent systems. These models demonstrate the possibility of order emerging from disorder through processes of spontaneous self-organization in the absence of any blueprint. The development of these new sciences is widespread with notable centers of work at the Santa Fe Institute in the United States; centers in Brussels and Austin, Texas, headed by Prigogine; one headed by Haken in Stuttgart; and one headed by Scott Kelso in Florida. Their work has been popularized in books by Gleick (1988), Waldorp (1992) and Lewin (1993), who all talk about a “new science,” even a new worldview. In taking up these “new sciences,” management complexity writers mostly claim that they challenge current ways of thinking about organizations and their management.

There are differences within the natural sciences on what these “new” sciences of complexity mean. Some talk of a new dialogue with nature and the end of certainty, or they call for a science of qualities and point to the importance of a participative approach to understanding nature. Others make claims for a new ordering principle in the evolution of life. Yet others see complexity as a further step in the progress of natural science as usual. In the field of management and organization, the ideas emanating from the complexity sciences are also being taken up in very different ways. For some it justifies a return to simpler, more fundamental

ways of managing that are more in touch with the deeper nature of human beings, while for others it amounts to a call for more democracy in organizations, or greater shareholder participation. Then there are those who claim that human freedom liberates people from self-organization and allows them to design or condition emergence. There are also those who see the complexity sciences as requiring managers to push their organizations into the dynamics of instability. For others, it raises question marks over strategic planning and the possibility of forecasting, so calling for a reconsideration of the nature of control in organizations. Others fear that nonlinear dynamics will be used to justify untrammelled market competition, or social and psychological “engineering.”

This rather confusing situation is one reason for this book. We are interested in trying to make sense of these diverse views and in doing so develop our own perspective on the way in which notions from the complexity sciences may assist in understanding life in organizations. In doing this, we believe that it is important to look carefully at the theoretical foundations of the various ways in which the complexity sciences are being interpreted in organizational and management terms, and how these foundations compare with those of the currently dominant way of thinking about management. We also believe that it is important to understand these theoretical foundations in the context of the historical development of thinking about organizations.

Without this, it is all too easy to make loose, unjustifiable translations of concepts from the complexity sciences into organizational frameworks. Nowhere is this more easily done than when people use loose metaphors taken from the complexity sciences to make prescriptions for management action. The result is almost certain to be old prescriptions in new jargon, or careless advice. This book, therefore, is not concerned with prescriptions or universal applications of theory. It tries to move toward an understanding of human action as being in its essence a process of sense making.

One of the aims of this book, as the first volume in a series, is to examine the claims made by management complexity writers. Do they hold out the potential for a radical re-examination of how we think about organizations; that is, a re-examination that goes right to the very roots of our thinking? Or are they but the latest in the explosion of management fads we have seen over the past few decades, another superficial fashion that leaves untouched the roots of management thinking and so soon fades? We argue that a great many writers run the fad risk. This

conclusion leads to the second aim of this volume; namely, to define the broad features of a project that, we think, does amount to a radical re-examination of management thinking.

This book is about movements of thought. The intention is not to provide an introduction to the complexity sciences, or why and how they have something to do with human organizations. There are now many books that do this. Instead, we assume that the reader already has some of this knowledge. Although this first volume is about the roots of organization and management thinking, and is therefore necessarily written at a theoretical level, it is animated by our conviction that there are more useful and less frustrating ways of making sense of life in organizations than those that currently dominate our thinking. Let us explain why we are convinced that more useful, less frustrating ways of making sense are necessary today.

“Getting things done, anyway”

Imagine one of those many occasions when a group of managers gather at some kind of “away day” meeting to revisit their business models, strategies and plans. They are repeatedly faced with the situation of trying to revise these frames for designing action in the light of new developments, events and opportunities. Often they have pre-reading, which analyses lists of issues, or computer graphic presentations, which do the same. Additionally, they may generate further lists of issues, which they discuss in breakout groups. As they talk they cover flip charts with bullet points. Then they come back together again and tack their flip charts to the walls. These flip charts provoke further conversation in the larger group as they mull over things that went wrong: time deadlines were not met; targets slipped; goals and aims could have been better defined; there was a lack of clarity as to strategic direction; vision and mission statements were poorly communicated; key performance indicators were ill-chosen and so on.

Some start talking about how frustrating it all is, usually because some other department did not take appropriate or timely action, or some leading figure did not give enough direction, or politics got in the way. Before the mood swings too low, however, they move rapidly to developing the action plans they need in order to correct weaknesses of the system and build on strengths. Finally they pin down accountability in terms of senior sponsors for areas of activity, or communications to be

devised, or new models to be worked up. The prescriptions they return to their organization with are almost always to design more systems and install further procedures in order to stay “in control.”

When invited to attend one of these sessions, the same features of the situation always strike us. What is striking is the complete lack of discussion on how they get things done in the day-by-day activity of organizing. If asked, they make a few remarks about personal connections, unexpected encounters, bending the rules and lobbying for support. However, they seem rather embarrassed about having “got things done” in this way, generally giving the impression that they do not really know how they “got things done.” The situation becomes even more intriguing when we ask what they did at the last “away day” session, only to discover that they went through the same procedure and departed with a similar resolve to improve managerial processes and design better systems. In fact, when they think about it, they report that they have been doing this for years and still the planning and control systems do not work as they expected them to. Every year they find that the unexpected has happened. They also know that much the same happens in other organizations and are somewhat surprised to learn that people were writing about this phenomenon in the 1950s. The experience of being the ones “in charge” but repeatedly finding that they are not “in control” is a very familiar one to managers – one that they feel uneasy about and seem unable to discuss openly with each other.

We think that this disjuncture between what managers believe they ought to be doing and what they repeatedly find themselves actually doing is an important source of the stress that managers seem increasingly to be experiencing these days. It must, therefore, be a matter of considerable practical importance to ask a number of questions about this experience. Why do managers think that they ought to be able to design control systems and act in accordance with procedures so as to be in control of what happens to their organization? Just as important, why do they keep finding that they are not nearly as much “in control” as they believe they should be? Even more important, what then are they actually doing to “get things done, anyway”? Then, why do they repeat the same search for improved procedures and systems every year, ignoring the failure to find them in any previous year? Why do they continue, each year, not to ask how they “got things done, anyway”?

We encounter other, equally puzzling situations. For example, we frequently hear this complaint: “There is poor communication in this

organization. People don't keep each other informed and this makes it really hard to do a good job." We notice a very common and immediate response to such complaints. Managers start calling for more sophisticated distributed information systems and procedures for storing and accessing that information so that they can retrieve it efficiently. They call for better briefings and fuller circulation of meeting reports. However, why has no company we know of managed to install such systems and procedures that remove the complaints? No matter how sophisticated the new information systems and procedures are, the complaints continue: "Our biggest problem is poor communication." Why do managers not discuss the fact that no matter how the information systems are developed the complaints remain the same? What if there is no alternative to a situation where information is all over the place and where meaning can only be made by many different people making sense together in many different groupings and conversations? What if this is the most effective way of developing knowledge when the future is so unpredictable?

A frequent response to the kind of situation we have just described is to set up a special meeting to discuss the problem of communication and what to do about it. Although these are perennial issues, no one quite seems to know what to do about them. Perhaps that is why it seems so important to make sure that the "right" people are invited to attend the special meeting. After some agonizing about who the "right people" are, there is further agonizing on what the "concrete outcomes" of the meeting are going to be. But just what could a "concrete outcome" be when the whole reason for the special meeting is that no one quite seems to know what to do? What if it is not possible to know who the "right" people are? Why do they have to be identified in advance, rather than leaving them to identify themselves through their interest in the issues in question? Why is it so anxiety provoking to contemplate a meeting around some issues that are not at all clear? Why is the thought that there is no agenda so horrifying? After all, in most other aspects of our lives we frequently talk to each other without an agenda. We frequently find that what others, and we ourselves, say, is unclear.

It seems to us that life in organizations is essentially paradoxical. Managers are supposed to be in charge and yet they find it difficult to stay in control. The future is recognizable when it arrives but in many important respects not predictable before it does. We sense the importance of difference but experience the pressure to conform. However, this experience of the paradoxical nature of life seems to be

unacceptable. We seem to think that life should not be paradoxical, that we should be able to resolve the paradox and find the solutions to the problems it gives rise to. However, believing one thing and experiencing another must be a source of stress and anxiety. On the other hand, if we find ways of understanding the unavoidably paradoxical nature of life, we may find the liveliness of acting in the tension. We believe that this way of understanding is to be found in our ordinary everyday lives in organizations, where we do in fact cope with paradox, one way or another, finding it frustrating and exciting. What we are trying to develop in our project for this series of books is a way of understanding how people in organizations actually live with paradox in their ordinary, everyday lives in their organizations. The matters of control and difference seem to us to be centrally important paradoxes of contemporary life and we are interested in exploring how current management thought deals with these paradoxes and how alternative ways of thinking might be able to offer ways of living with them without collapsing into a search for the “right way,” the solution. We need a way of understanding that places paradox at the heart of the matter.

Ways of thinking

The puzzling situations people find themselves in, the questions they ask, or fail to ask, all reflect some way of thinking. It is a way of thinking that focuses their attention on systems and procedures in the belief that this is how “things get done.” It is a way of thinking that keeps turning their attention away from the details of ordinary, everyday life in organizations through which they actually “get things done.” We suggest that there is nothing more important than the way managers think about the nature of their organization, particularly how it comes to be what it is. What sustains organizational continuity and what makes for creative change are central questions, and how we think about these matters is of major importance. It is this conviction that lies behind our desire to write this book, as the first in a series that is intended to explore ways of thinking about how organizations come to be what they are; that is, how they come to have the identities they have and what the role of managers is in that process. In other words, our key questions are as follows. What causes an organization to take the form it takes and what causes the pattern of its evolution into the future? Can that future be known and therefore predicted? Can that future be chosen in a rational way? Or is the future under perpetual construction and hence unpredictable to a

significant extent? If so, what are the processes of perpetual construction?

In what they do and how they talk about it, managers demonstrate a particular way of thinking about questions like this. That particular way is primarily an importation of engineering notions of causality into thinking about organizations. It was engineers in the early part of the twentieth century who developed scientific management, and engineers in the middle years of that century who developed the conceptual basis of the kinds of control systems found in organizations today. This is a way of thinking that sends managers looking for the causes that will produce the outcomes they need in order to succeed. It is also a way of thinking that focuses on design. Just as engineers do, managers are supposed to design self-regulating planning, performance appraisal and quality control systems. What causes an organization to become what it becomes is then thought to be the kind of control system they have designed and the actions they have chosen. Organizational life never proceeds so smoothly that choices are always realized, so that chance events have also to be dealt with and this too is part of the management role. What causes an organization to be what it becomes is also, therefore, the way in which members deal with chance; that is, how they take risks. Risk assessment and risk management systems are another way in which the uncertain aspects of organizational life are meant to be controlled. From this perspective, then, an organization becomes what it is, and will become what it becomes, because of the systems its managers design, the actions people in organizations choose to carry out and how they deal with risk, all within a fiercely competitive struggle with other organizations in order to survive.

Do we have to continue using ideas imported by engineers to make sense of our lives as human beings in organizations? We believe not. There are alternative ways of thinking about causality, some of them suggested by the more provocative thinkers in the complexity sciences, which lead to very different answers to the questions we have been posing. These thinkers suggest that interaction itself has the intrinsic capacity to yield coherent patterns of behavior. They propose that the entities of which nature is composed interact locally with each other, in the absence of any blueprint, plan or program, and through that interaction they produce coherent patterns in themselves. There is a further suggestion too – namely, that interaction in nature takes place not primarily in order to survive but as the creative expression of identity. There is yet another provoking idea. It is only when the interaction between entities has a

critical degree of diversity, emerging as conflicting constraints on each other, that there arises the internal capacity for spontaneous novelty. In other words, creativity and destruction, order and disorder, are inextricably linked in the creative process. That process is self-referential in the sense that interaction causes patterns in itself in a way that both sustains continuity in, and potentially transforms, that pattern.

If this has anything to do with organizations, it would mean that intrinsic properties of connection, interaction and relationship between people would be the cause of emergent coherence and that emergent coherence would be unpredictable. That coherent pattern might be creative or it might be destructive but it would still be a coherent pattern that emerges. People would still be understood to be choosing and acting intentionally, but this would apply to particular, local responses to others in ordinary, everyday organizational life. It would be the interaction itself that caused the emergent pattern, and plans and procedures would feature in these interactions without determining their pattern. Instead of people interacting selfishly with each other, instead of their organization interacting selfishly with others simply in order to survive, they would be understood as interacting with each other for the sake of emerging identity and difference realized in the living present. In this paradigm, an organization comes to be what it is because of the intrinsic capacity of human beings, individually and collectively, to express their identities and thereby their differences. Identity and difference emerge through self-organization; that is, relationships of a cooperative and competitive kind. What an organization becomes would be thought of as emerging from the relationships of its members rather than being determined simply by the global choices of some individuals.

Clearly this would challenge the dominant management discourse by pointing to the:

- paradoxical nature of life in organizations;
- significant constraints on predictability and individual choice;
- self-organizing relating between people in which the power, politics and conflict of ordinary, everyday life are at the center of cooperative and competitive organizational processes through which joint action is taken;
- importance of difference, spontaneity and diversity; and
- close connection between creation and destruction.

Above all, this approach would challenge systems thinking in relation to human organizations. We will be suggesting a shift away from thinking

about an organization as a system and advocating a way of thinking about an organization as processes. The aim of this series of books is to develop thinking about organizations as Complex Responsive Processes of relating. The position we are defining for our project, then, is one that departs from systems thinking, the way of thinking that currently dominates management discourse. Our project is to develop an alternative to systems thinking about human organizations, not merely an extension to it. This does not mean that systems thinking has *no* place in organizations. Once problems have emerged, once activities take on repetitive features, then systems thinking is a very powerful method. Furthermore, systems thinking provides a powerful way of taking account of causal connections that are distant in time and space. This provides insight into the unintended and unexpected consequences of human action. However, systems thinking, we will argue, does not pay sufficient attention to what it is excluding and does not deal adequately with the paradoxes of organizational life. Most importantly, it cannot explain novelty in terms of its own framework. These are all matters we will take up in Chapter 4.

Outline of the book

In the chapters that follow, we return to what we think are some of the most important streams of Western thought flowing into currently dominant ways of making sense of life in organizations. The exposition is, therefore, necessarily theoretical. However, it is theory that is relevant to us in our practice in organizations. The theoretical exposition frequently triggers associations with situations we encounter in our practice and we invite you, the reader, to make your own associations with your own practice. Our intention is to point toward an alternative to systems thinking about human organizations, an alternative to be developed in subsequent volumes in this series. This volume explains why we think such an alternative is required and it briefly outlines the sources we might turn to in order to construct such an alternative. We will be arguing that the complexity sciences on their own do not supply this alternative. They are a source domain for analogies that need to be understood from particular sociological and psychological perspectives that we group together under the heading of relationship psychology.

Chapters 2 and 3 review the contrasting views of Kant, Hegel and Darwin on the nature of causality. It argues that Kant's work underlies systems