COHERENCE IN THE MIDST OF COMPLEXITY

INTRODUCTION

MIRACLES AND NASTY SURPRISES

Over the last twenty years, society, management, politics and organization have been beset by a myriad of miracles and nasty surprises. First was the crisis-proof new economy, then the enormous real estate boom, followed by financial crisis, and there is the ever on-going globalization. There have been enormous booms and abject busts. Bad things seem to have happened to good people, and seemingly bad people apparently have prospered. Some people who were thought to be good have been relabeled bad and some of those bad are struggling to escape prison.

Throughout the turmoil and change, management studies and organizational theory have remained pretty static. Theories of radical unpredictability, disproportionate change, or nonlinear dynamics certainly have not prevailed or dominated. Nonetheless, there has been the miracle of enrichment and the nasty surprise of crisis. Theories and prescriptions for practice emphasizing simple principles, such as, shareholder value or that the ultimate measure of a company's success is the level of return to its shareholders, are still around. Sensemaking has been blind and business principles have been shallow. Although we write about change and coherence, emergence and experience, miracles and surprises, we do not and cannot rationalize away change, surprise, and chaos.

We are not writing about religion. We are not writing about the latest suggestion from some management guru. We make no claims about ultimate truth or about having found the way. The explanations we offer we think are profound. They have their roots in a critical examination

of how business, management, and organization have been explained and of the role efficiency plays in our modern society. If we lost you with that last sentence, we promise to explain.

Consider, if you will, the game of golf (humor us, this is only paragraph four of a two hundred page book). On many, if not most golf courses, there exists a hole with a significant water obstacle between the fairway and the green. Golfers expect such holes. They have rules of thumb to guide them as they play. They have anecdotes about the holes and they learn from prior play. If they are playing on a modern twenty-first century golf course and driving a modern twenty-first century golf cart, golfers have the electronic assistant available—a golf computer which knows each and every hole and can tell the golfer which club to play and how to aim their stroke. These golf computers are the paradigm of efficiency. They eliminate the need for the anecdotes and stories. They eliminate the need for the personal knowledge of each hole that once was offered by a caddy (and for which that caddy could sometimes acquire a rather generous tip).

If the hole is average and the computer has been fed the right information, then the recommendation offered will be generally correct and efficiency scores yet another victory. But, not all golf holes are average. On some, the water hazard in question is actually a fairly significant body of water, which may physically be fifty to one hundred feet below the level of the fairway and the green. The body of water may have its own weather patterns. The golfer, feeling no wind at his back and seeing no movement of the flag on the green, still has limited information about the weather conditions down below on the lake or river. The computer has even less information.

Computer efficiency comes in the form of an algorithm that performs a few computations and then the machine tells the golfer what best practice says about which club to use, direction to

aim, and how far to attempt to drive. The golfer does as suggested and the ball ends up twenty-five yards to the left of the green. The golf computer was being coherent. It performed efficiently. But, the mental mindset of efficiency led both the computer and the golfer astray. It turns out that there was a strong wind on the surface of the river, which had a profound effect on the trajectory of the ball. If the golfer had had a caddy, the caddy would have gone to look at the river, made some observations about the white caps on the current and of the vegetation bobbing in the wind, and would have suggested how to alter best practice so as to better fit the current situation.

Our golfer got a nasty surprise. If the wind had changed course just a little, he might have gotten a miracle instead. (And, if that had happened, he would have been bragging about the golf computer to everyone he knew.) The nasty surprise happened because the coherence on which the computer was based—the unified sense of understanding that allowed the golfer and the computer a sense of confidence with regard to next steps—was faulty. The coherence of the computer was based on averaged best practice (sound familiar), which the golfer applied as if it were a rule not to be tinkered with. Best practice is, after all, best practice. Efficiency has no room to consider context, history, and situation. Efficiency's coherence is limited and all too often faulty. Miracles happen when context history and situation combine in a fortuitous way, and nasty surprises occur when context history and situation combine in an unfortunate way. In both cases, the predictions at the basis of efficiency's coherence did not pan out. Efficiency's order or coherence failed.

That notion—coherence—is what this book is about. Coherence is a simple word that requires complex understanding. At its root is the notion of co and here—two or more items are present in the same here, at the same time. When things are coherent, there seems to be unity,

that is, two or more items share a here and have something in common that allows for unity to appear to participants, observers, or both. When coherence is written about or spoken of, it usually is done so retrospectively; someone has looked back and determined that the label coherent is or was applicable to the situation so labeled. Although the coherence literature is not extensive, it is rather thorough with regard to this ascriptive/retrospective labeling of coherence (see Thagard 1989 to present). This book examines coherence from a very different perspective—that of experience.

When we experience coherence, we have the confidence of feeling grounded, and that certainty promotes a willingness to act. Indeed, we wish to distinguish uncertainty—the lack of a willingness to act—from ambiguity (which is the presence of competing information claims). The power of a coherent experience lies in the lack of questioning, which it demands, and the affordances for further experiences, which it offers. Coherence is a valued aspect of situations, concepts, and organizations. That value is related to a resulting lack of demand for attention to uncertainty.

The golfer was making use of rules and labels captured in the algorithm of the golf computer to approach his game. She was making use of retrospective coherence. Now, if she had a caddy with local knowledge, the golfer could have supplemented that retrospective coherence with experience. She could have adjusted best practice to local context and situation. She could have made use of the local caddy's knowledge of history.

We are writing about the thought processes we all live by. They were at work in the mind of our golfer. They are at work in your mind now. These thought processes are fundamental to how we each go about dealing with the world in which we find ourselves. They are the processes by which we create, recognize, assume, and believe in the stability and wholeness of the world.

Psychologists refer to these thought processes by that same word—coherence. (see Frith, 1983 to present)

The coherence of which we write can be as simple as a child's game or as complex as the creation of a global energy market. Coherence of this kind is experienced. It is embodied in our lives. We feel it and breathe it. We call this emergent coherence, emergent coherence because the coherence which is experienced emerges as the very experience occurs.

When we perceive the world as coherent, as holding together and as making sense, we have the ability to assume our situation and to get on with things. When our perception of coherence is shattered, the world no longer seems to hold together. Things do not make sense. We continually have to ask questions and we worry about our inability to find answers in which we can believe. We react to our loss of assurance with a loss of self-confidence, and we pull back to whatever coherence we can find. For some, the remaining coherence will be very individual and private. Some will bury themselves in the certainties of their work. Others will find coherence in family, and still others in community and altruism.

Computers process a vastly different kind of coherence. To a computer, coherence is the degree to which an item matches a definition or a set of items having observable qualities that match one another. Computer coherence is about measurement. When the measurement-based coherence of computers has taken over for the experiential coherence of humans and the context changes, then there are (can be) miracles and nasty surprises. When the context remains relatively stable, coherence-by-measurement can be substituted for emergent coherence without the difference being visible in the results. This can produce great efficiencies. No one has to think about, analyze, or attend to the circumstance. Stable context is the foundation for best practices. Stable context is the foundation for the rigid application of rules, for the use of

statistical controls, and for the substitution of algorithms for temperamental and oft time emotionally influenced human judgments.

If you lived in an area of rising home prices during the years 2000–2007, the housing bubble was a miracle. Like any other miracle, it endured due to faith. There was faith that prices would continue to go up. There was faith that there would always be others who would be there to buy. There was faith that the easy money available to make housing purchases would continue to be there. There was faith that the economy was strong and fundamentally sound. There was faith that the leaders and decision makers in the housing, banking, construction, and related industries knew what they were doing. There was faith that one's elected leaders at all levels of government knew what they were doing.

Faith is a powerful force. Once we accept beliefs as faith, we tend to not question them. It would be sacrilege and deeply unsettling to attempt to examine and reexamine the basis for our faith. Faith is accepted as a background condition. It just is. We incorporate the elements of our faith into the fabric of lives. We understand the world through the lens of our faith. We go about our daily lives secure in the strength of our beliefs, founded upon faith. Our modern world has found great efficiencies in converting faith into rules and algorithms.

When our expectancies fail us, our faith is shattered. We can be pleasantly surprised by the so-called miracles or chagrined by the nasty surprises. Faith may have blinded us to the slow compilation of evidence that raised questions about our beliefs. Because our world is in some sense constructed upon the bedrock of our faith, the shaking of that bedrock is in effect a shaking of our world.

In 2008, America questioned the miracle that was the housing boom, and nasty surprises followed. The boom was redefined as a bubble—a bubble in the process of bursting. Neither

business leaders nor politicians seemed to know what to do. The beliefs on which faith in the housing boom rested, crumbled before our eyes. But, just as this is not a book about golf, this is not another book seeking to explain who did what to whom in creating the financial crisis of 2008–2010.

The golfer used a computer that replaced the experientially gained local knowledge of the caddy. Parallels with the financial crisis continue. Part of the housing bubble was fueled by the relaxation of the "know your customer" rule of banking, where a loan officer would not commit to a loan without a coherent belief that the customer could repay. This rule entailed, in effect, a demand that no loan be made without experiential knowledge of context, history, and situation, to buttress whatever any algorithm might suggest. Efficiencies won the day. The "know your customer" rule was replaced by instant approval, based on a computer's measurement of data, anonymously submitted, and seldom subject to verification. Something very similar to the golf computer was on every bank officer's desk.

Then the context changed. The measurements were called into question. Suddenly, both kinds of coherence—the measured and the experienced—which underlay the provision of easy credit, seemed very shaky. Metaphorically, the wind kicked up from the lake after two of the golfers playing had made perfect drives doing exactly what the golf computer told them to do.

Managers are taught much about measured coherence. The power of measured coherence to produce results in a world of fixed contexts drives much of modern business studies. The road to profit supposedly lies in finding efficiencies and in exploiting the anomalies found through better data analysis. Managers are taught little to nothing about emergent coherence—they learn that through the school of hard knocks. We aim to change that—a little bit. By looking at the relationship between the two kinds of coherence, we hope to illuminate the sources to both the

miracles and nasty surprises. This is an understanding that should not only lead to less panic and regression, but also to less faith in prediction and efficiency. Along the way, we can perform much needed conceptual debunking and some deconstruction.

Context is crucial. Measured coherence demands a context of stability. Emergent coherence entails finding stability in context. Without reliance on the former, efficiencies are difficult to create and exploit. Without an awareness of the latter, life passes us by and crises descend, seemingly from nowhere. Sagacity or preparedness demands that we develop a better understanding of emergent coherence.

The lessons from this book are simple, but their implications are vast. Our modern world tends to operate from a belief that progress, efficiency, and the way forward stem from a mastery of labels and rules. Labels are the names we associate with items, people, groups, situations, and so on. Rules tell us what to do when we are dealing with something labeled x. Ascribed, measured coherence focuses on how well a given item, person, or situation matches the assigned label. It also examines how well rule x matches the desired outcome y. The underlying assumption is that the pairing of label x and rule x will produce the desired outcome y. In the terms we use in this book, this assumption that label plus rule produces desired outcome is a model, that is, a mental model with which we (potentially) deal with the world. Because we use the same model in a variety of situations, the accompanying loss of context can be very dangerous to us.

Yet, experience is not everything. Experience can be misunderstood or not understood at all. Different persons can report having had very different experiences in one and the same situation. Experience can lead to totally different analyses, predictions, and accounts. The polarity between ascribed and experienced puts our ability to know in doubt. The rules and

theories of management studies ascribe significances and define appropriate actions, most of which are (in the long run) unreliable and inaccurate. In emergent coherence, meaning and purpose seem present. Flow happens. Can this happening be guided by managers? Should it be?

Managers often attempt to guide meaning and purpose through the use of rules, labels, and categories. These items are sometimes called representations for the stand for or represent some larger grouping. Although managers make use of representations, not all representations work. Managers hope that the representation used evokes a compression (a richer and more detailed summary or synopsis of the grouping). Often, what is assumed to be a lossless compression (where the representation is treated as if it were the whole of the item or system being represented and that little of consequence is "lost" by making the substitution) is actually quite lossy, with major consequences stemming from the unattended to "lost" data. When managers assume that the models and representations of the world can be substituted for the world itself, the assumption can be pragmatic and harmless. But, at times, either miracles or disasters await.

Our observation is that label-based rules are not the only kind of "what should I do next" mechanism available to us. The traditional craftsman/apprentice spends years observing the master at work with two objectives: to gain awareness of what is contextually possible and to develop a repertoire of activities to make use of those possibilities. Aircraft pilots undergo hundreds if not thousands of hours of (simulation) training with much the same objective—their task is to recognize dangers that may present themselves, context by context, and to develop a repertoire of reactions to these dangers. Both the craftsman/apprentice and the pilot do not learn their skill from the study of label-based rules. Instead, they are required to engage with experience and to learn from context.

We cannot articulate experiences or rules-of-practice except via words and symbols. Rules and principles, generalizations and conclusions are attributed knowledge; that is, they are only analytically available to us and not directly perceptually available. If we belong to the same culture of critical discourse, we may know and apply the same mental models. The modern sense of efficiency may have led to the presumption that when a label can supplant a story it is more efficient and thus better. The problem with that presumption is that the study of labels and associated rules is devoid of a study of context and the dynamics presented by context. What context permits, invites, stimulates, and makes almost inevitable we call affordances—a present context affords doing x. Both the craftsman and the pilot are trained to recognize affordances and to then apply (appropriate) activities. We mostly experience our surroundings in terms of what they afford; that is, the park bench invites us to sit down, the red car invites us to speed up, the large desk and thick carpet invite us to be respectful. We live in a world of affordances; that is, of objects and circumstances, conventions and routines, which afford certain behavior. Our surroundings invoke behavior, at least as much as we choose it.

When we try to observe how the world acts on us, we begin with affordances, but must ask if we can go further. Are there more abstract or general (non-)apparent homologies, that is, similarities, principles- and logics-linking structures, objects and/or events? In the so-called natural attitude of everyday consciousness, we assume all sorts of things—that organizations are repressive, that bankers are greedy, that politicians are hypocritical, that flexibility is profitable, and so on. Can these assumptions withstand careful analysis and disciplined observation? Which similarities withstand inspection?

The study of homologies is an attempt to identify which similarities can and cannot be trusted. Some similarities seem important, trustworthy, or (even) real, but our human limitations

in observing, analyzing, and representing (in language) puts enormous limits on what we can really know. When we represent homologies of organizations, we necessarily produce simulacra or narratives of possible and/or virtual circumstances. The ability of human perception, senses, and representation to know organization is limited. However tentative our knowledge of homologies may be, the acknowledgement of circumstantial and afforded possibility does not seem enough. We feel a strong need to analyze further and to systemize what we encounter.

Our method for systematizing is to examine the interrelations amongst four ideas: EXPERIENCED COHERENCE, ATTRIBUTED (or ASCRIBED) COHERENCE, AFFORDANCE(S), and HOMOLOGY.

We begin with the distinction between experienced and attributed coherence. In both cases, coherence is at issue. There is a fundamental similarity here, but also a big difference. Experienced coherence is direct, immediate, context bound and immediate; attributed coherence is categorical, defined, labeled, and mediated.

Affordances stand opposed to experienced coherence. Affordances invite, demand, and assert an attraction on the subject. The subject is acted upon by the affordance. Affordances resemble experienced coherence, in so far as they are direct and immediate. Affordances entail circumstance(s) acting on consciousness or world presenting itself as possibilities and opportunities. Likewise, homologies entail structures of shared similarity; for instance, in organizational psychology motivation, leadership, power, and achievement have all been proposed to be the basic structures of behavior. If such general and/or group structures underlie organizational reality, then they are to be understood as (some of) its homologies.

Attributed coherence and homologies are indirect, conceptual, and retrospective. Attributed coherence is socially constructivist—the key concepts are ascribed to the situation.

Homologies are qualities of the very structure of the phenomena. The dichotomy is between social constructivism and (some sort of) realism.

Between experienced coherence and homology, there is fundamental contradiction. Experienced coherence in no way resembles nonevident similarities in structure or design. Monkey's limbs, whale's fins, and bat's wings may resemble one another in their fundamental bone structures, but they do not look the same. There may be a structural homology or fundamental similarity between them, but the similarity is not normally immediately perceived. Likewise, canine behavior of attack or flee may parallel the psychology of stock market trading, but the similarity is not normally self-evident at first glance.

Although affordances are directly perceived and (perhaps) acted upon, homologies are perceived via theoretical observation and analysis. Likewise, attributed coherence is the product of second order mental activities, whereas experienced coherence is a first order phenomenon. Experienced coherence and affordance are first order phenomena and attributed coherence and homology are second order phenomena. Experienced and attributed coherence resemble one another in that they both have to do with experiences of order, unity, and meaning. Affordance and homology resemble one another in that they both have to do with world and how material actuality asserts itself. As we shall see, human knowing (probably) falls short of being able to be sure about homologies. We may be limited to uncertain ideas or simulacra and never be able to entirely successfully cognize homologies.

To begin, we discuss coherence or perceived order. We ask if order is directly experienced or always conceptually mitigated? Although this appears to be a very philosophical question, for managers and organization studies it is also a very practical one. Can organizational order be directly perceived or does it have to be rationally analyzed into existence? Can

organizations successfully self-organize or do they have to be planned, imposed, and enforced? Can we understand what organization really is; that is, are there identifiable general principles of organization or is organization emergent and serendipitous?

We study coherence or order as directly perceived consciousness and as labeled analyzed and ascribed significance. We will not lose sight of circumstance, structure, and world. Coherence is not just a matter of ideas or thought; it includes what the material world makes possible and what humans (are able to) find important, realizable, and significant. We organize and manage in concrete material circumstances.

Our goal is to question the rule-based coherence that managers have been taught to think they are safe relying upon. We offer emergent coherence for your consideration. Experienced and ascribed coherence each have their time and place. But, although the rule-based attributed coherence managers know has been studied in minutia, emergent coherence has been overlooked.

Whenever we look back, we can construct explanations and algorithms that allow us to attribute coherence to the past. We can always be our own version of the golf cart computer or the computer-generated risk profile for a subprime mortgage loan. Experience as it is being experienced is just different. It is contextual, situated, and open to emotion. Experience draws upon that which appears to be available, to construct enough confidence to allow for the next action. If all that is available is a rule, then that is what will be used. Often, this will work fine. Sometimes a miracle occurs. Other times a nasty surprise.

If, however, we begin to question our use of labels, categories, and rules as being insufficient, and if we start to look instead to experience, then emergent coherence could become our foundation for action. It may not be efficient. It may not be characteristic of the data-driven

computer-based algorithmic future we seem to think the twenty-first century should be. But, as our research suggests, it works. Craftsmen do it. The most senior practitioners do it—without counting on miracles, ever-prepared for what could be a nasty surprise.