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**Editor's note:** The authors of "Seeing and Leading Organic Systems," **Cynthia Cherrey, Ph.D. and Kathleen Allen, Ph.D.**, believe that organizations need to develop new forms of order and cohesion that go beyond policy development and other traditional forms of control. Allen and Cherrey present a convincing case that we need to take our blinders off and become aware of the organic nature of our organizations, rather than the mechanistic expectations that pervade our culture. Once the organic realities of human dynamics are seen, new forms of cohesion and order, as described in this article, can be used to better understand our organizations.



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## Seeing and Leading Organic Systems

By **Kathleen Allen, Ph.D. and Cynthia Cherrey, Ph.D.**

Co-authors of the book, *Systemic Leadership: Enriching the Meaning of Our Work*

Drucker is well known for identifying a trend before others see it. He says his ability is based in seeing the world as it is rather than how he wants to see it. We believe that there is a reality in our organizations we don't see or don't want to see. The purpose of this article is to reveal typical organizational behavior that rarely operates on a conscious level in our organizations. Many of us have been brought up on mechanistic metaphors that have shaped our organizational expectations and the way we see our reality. However, as our organizations have responded to growing change and complexity, an organic set of behaviors has emerged that reflects how we have been adapting to these changing conditions. We believe it will be helpful to name these organic behaviors/realities and show how they are often juxtaposed to the expectations currently articulated in our organizational background assumptions and standards of operating.

Once these organic realities and mechanistic expectations have been named, we will suggest new ways of building cohesion that are not based in mechanistic control. We believe that organic realities require new ways of creating organizational cohesion that move beyond traditional control mechanisms like policies and procedures, goals and objectives, and performance appraisals. We will end with a new view of leadership that faces the organic nature of our systems.

### Organic Realities and Mechanistic Expectations

Organic images describe human interactions that naturally occur in organizations. Phrases like "go with the flow," "he's all wet," "don't get blown away," "look before you leap," or "this is out of my control"

reflect an organic view of organizational life. The term “organic realities” seeks to describe and give language to how human behavior in organizations actually works. The term “mechanistic expectations” describes the background assumptions and expectations that we have of each other’s behavior in our organizations – in other words, the way things ought to be. This set of mechanistic expectations is a familiar one because many of us were raised on them. Phrases like “what a perfect solution,” “we know exactly what’s going to happen,” and “I’ve got it under control” all reflect the language embedded in a mechanistic view. We believe that the way things ought to work in organizations and the way things actually do work are incongruous. An organic image of an organization is different from a mechanistic image. It is intriguing and exasperating that we expect our human organizations to operate with the same precision as a well-calibrated machine. Another example of the mechanistic expectations we have in organizations can be found in how we judge our car. In a car we have expectations of dependability, predictability and efficient use of fuel. In organizations we expect people to be dependable and efficient and predictable. Taylor, in 1911, used a similar set of criteria in his principles of scientific management and his time-motion studies in factories across the country, which provided a foundation for the mechanistic expectations in our organizations today. With mechanistic examples all around us, it is very easy to judge ourselves, our organizations and our behavior on standards that have been developed for evaluating machines. A shift away from these mechanistic assumptions and toward organic assumptions creates a more accurate understanding of organizational dynamics. This shift can only occur with an increased awareness that will sharpen our ability to see the world, learning to name these mechanistic assumptions and creating their organic counterparts. The following mechanistic assumptions of perfection, goals, control, efficiency and predictability are juxtaposed with the organic realities that currently exist in organizational life.

### ***Informed Experimentation vs. Perfection***

Even though a person may understand the difference intellectually between the illusion of attaining perfection the first time and the reality of experimentation, the organization often measures performance by the standard of perfection. This is one of the fundamental differences between the way things ought to be and the way things actually are.

Observing current organizational assumptions leads one to believe a person can always be right the first time. For example, how many times have you heard others or yourself say, "I should have got it right the first time." This assumption implies that if one can think of an idea and plan it out carefully enough, the result will be perfection the first time. This is the way things "ought to be." However, it is not usually the way things "actually are." In reality, we come up with an idea, create a plan and implement the idea as best we can. At most, the first time we implement a program or try out a new idea, it looks like informed experimentation. As the plan evolves, we find surprises occur or we underestimated the time it takes to gain others' active cooperation. Each time we try out something new, we learn from the experience and use that lesson to problem solve and refine the original idea.

### ***Core Values vs. Goal Setting***

Another example of the contrast in the way things ought to be and the way things are is imbedded in the process of developing goals. Each year employees write goals and objectives for the following year. The performance appraisal process is tied to the accomplishment of these goals and objectives. The expectation is that an employee will be assessed on their ability to achieve their identified goals. Often, conversations are scheduled with supervisors to provide updates and progress reports. That, at least, is the way things ought to be.

What actually happens is that surprising challenges show up throughout the year that become more important than some of the original goals identified at the beginning of the year. This presents a dilemma because of the need to shift focus to these unexpected challenges and issues. However, performance is still measured against goals that were developed months earlier. Mechanistic expectations imply that what will be important for the next 12 months can be predicted with complete certainty. However, experience suggests that there will be times when additional or new goals will take priority over the previously stated goals. When this occurs, adjustments to time and focus are needed to meet these new challenges or problems. If these new issues are ignored, the organization suffers. Thus, the organic reality is that goal and priority setting is more fluid than most organizational norms suggest.

One way of living with this paradox is to use the core values and purpose of the organization to continually re-prioritize goals during the year. The organizational purpose becomes the guide against which

original goals are set and emergent goals are identified throughout the year. This constant re-prioritizing increases organizational adaptability.

### ***Control is Rare vs. Control is Expected***

Most organizations operate under the assumption that control is expected. Most of the management literature implies that managers should be able to control all the employees who report to them and this form of control is necessary for the manager to deliver the expected outcome or product. Managers are given authority and power over employees in order to ensure control. This is how the system is designed and how it "ought" to operate. This expectation is grounded in a mechanistic metaphor. People are likened to cogs in a large machine. Having control over them allows the machine to work smoothly and achieve its intended purpose.

However, when dealing with human beings, absolute control is rare, and some might say, impossible to achieve. For those inclined to doubt this statement, think about the infinite number of ways people can resist control when they put their minds to it. Although the *illusion* of control may exist for a period of time, it cannot be maintained over the long term. And in institutions that are experimenting with new forms of organizing, traditional modes of control are rare.

As organizations become more complex, the need to control employees is actually maladaptive because it diminishes its ability to adapt. Complexity is managed through increased freedom, accountability and responsibility.<sup>1</sup> By increasing autonomous behavior and responsibility in relation to the core values in the organization, individuals constantly shift their actions, which, in turn, increase organizational adaptability.

Perhaps it would be helpful to discuss further how organizational purpose and core values can help sustain organizational cohesion. Traditionally we create controlling mechanisms in organizations to shape human behavior, which results in *controlled dependency*. The control of a person comes from an external source, such as a supervisor. Over time this controlling behavior reinforces an individual's dependency on that specific external force for direction. When organizations use core values, the form of cohesion comes from many individuals' accountability to those values and recognition by employees of their interdependency on each other and the organization. We call this *accountable interdependency*.

### ***Innovation vs. Efficiency***

The value we place on efficiency highlights another contrast. In the image of the way things "ought to be," efficiency is the standard of competence for the organization. Efficiency is measured by how fast things are accomplished. There are many examples of organizational behavior that aren't really efficient. Each time we encounter one of these realities, complaints ensue about wasting time. For example complaints abound about committee meetings because they rarely live up to our standards of efficiency. We judge ourselves most competent when everything goes right and no "humanness," like emotions, interferes with our task.

The reality of human organizations is that they are not efficient. Human processes and dynamics are messy. Human beings are great at innovation, creativity and effectiveness, but we do not accomplish things in the most efficient way. For example, the same subjects come up again and again at meetings before a decision can be reached. People do not always respond to requests for information, which interferes with efficient timelines. And human emotions often cause miscommunication or resistance, which derails preexisting timelines.

What if human innovation, learning, and creativity were assumed to be a naturally occurring activity? A baby is a model for learning and innovation. During the first few years of a children's lives all they do is learn and experiment. They use their full body and all their senses to understand the world around them. And anyone who has watched while a baby learns to walk knows that it is not an efficient process. Somehow along the way of growing up, people are taught that they should be more efficient. In school systems pressure to achieve the right answer the first time reinforces efficiency and diminishes experimentation. However, even with all the cues that tell people they have to be efficient, wild strains of learning and innovation continue to emerge. Curiosity is a natural aspect of the human condition. The organic reality is that innovation is part of human behavior; unfortunately some of the behaviors that reflect early signs of experimentation are not appreciated in the search for mechanistic efficiency.

Organizations spend time and energy trying to figure out how to drive innovation throughout the organization, but on the other hand, they don't value behaviors like redundancy or slipping off course that actually enhance innovation and creativity. Creativity does not plot a linear course. Rather, it emerges out of twists and turns and playing with the unusual. Play is not efficient but it can produce innovation. The level of innovation is also related to beliefs about control. If an organization reinforces controlled dependency, it also makes it more difficult for employees to innovate. There are many examples in our language that indicates our bias for efficiency. For example, a best practices benchmark search is for the right answer, the most efficient way to achieve an end result. However, it also anchors us in the past. Today fast-moving environments require organizations to constantly adapt. In an organic reality we would be searching for innovative practices, because future evolution comes from experimentation.

***Probability vs. Predictability***

Another mechanistic assumption we operate by is predictability. The belief that people's behavior ought to be predictable in organizations rarely holds true. Patterns can be discerned that indicate the probability of a future event, but predictability cannot be achieved. Predictability occurs when the outcome is 100% assured; probability occurs when the outcome is likely but not guaranteed. For example, an oil company cannot predict where they will find oil in the North Atlantic Ocean, but they do have formulas that can increase the probability of an oil strike.

This paradox of probability and predictability is reflected in another complex system--the weather. Generally meteorologists can predict what the weather will be like today, but not three days from now. Too many intervening variables preclude accuracy three to five days from today. They can only make "educated guesses," based on current patterns or the probability of the movements of future weather systems.

Human dynamics in organizations are similar to the weather. There is very little predictability beyond the immediate timeframe. Because the organizational assumption is that events and behaviors within organizations are predictable many hours are consumed trying to do just that. However, it is quickly determined that, whether it is a five-year plan, an annual budget, or the mood of the person in the next office, nothing is predictable.

While unpredictability is the norm on one level, people's behavior and organizational dynamics often (like the weather) follow a pattern. Patterns are different from predictability. They reflect an underlying order seen over time but do not extend this general pattern to specific prediction. The weather follows a general pattern with the seasons of the year and average temperatures and levels of precipitation. However, these averages and the seasons do not claim to provide information about the specific weather on any given day. Human behavior, like weather, has overall patterns which can be useful in understanding organizational dynamics.

***What do we really see?***

Of the preceding scenarios describing organic realities and mechanistic expectations, which match life experience? Do organizations get things right the first time? Are people and events in organizations controllable? Does everything operate efficiently? Do the goals identified in the beginning of the year actually match the goals that are most important during the year? Is predictability the norm? Or, do organizations exhibit informed experimentation? Do some initial goals fall by the wayside to more important but unanticipated goals that show up in the middle of the year? Do employees anticipate what may be ahead through patterns of evidence instead of waiting for absolute assurance?

<p><b><u>Organic Realities</u></b>          Informed experimentation          Core values          Control is rare          Innovation          Probability</p>	<p><b><u>vs.</u></b></p>	<p><b><u>Mechanistic Expectations</u></b>          Perfection          Goal setting          Control is expected          Efficiency          Predictability</p>
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If organizational behavior resembles organic realities – the way things are - instead of mechanistic expectations – the way things ought to be - then we are living and working in organizations that have more of an organic nature than a mechanistic one. If we can accept the organic nature of organizations and the

people within them, we can let go of judging ourselves and our organizations as deficient. We can begin to learn more about how things naturally occur and use that knowledge to lead and design operating systems that complement the strengths and dynamics of human organizations. Given the change-ability and unpredictability of organic organizations, how does one maintain order in them? Different organizational forms and processes can help maintain a sense of order and cohesion. These forms of cohesion and order pace the organic nature of human systems and can either work alongside more traditional forms of control or replace them.

### **New Forms of Cohesion**

Would the CEO of the Internet please stand up? Could a single person, even with knowledge and power, create a sudden or drastic change in the Internet? There is no such person to be found. How does the Internet survive without job descriptions, strategic plans or performance appraisals? The Internet, governed loosely by a broad range of persons, is a harbinger of institutions to come - sophisticated networks of people and resources that inherently cannot be "managed" using current controlling strategies based in a mechanistic worldview. While this could seem troubling to some traditionalists, it is an unavoidable reality.

For example, each time a novel problem not covered by current policies occurs, a new one is written. Given this response, it is no surprise to find 12-inch thick policy manuals. Of course, generating a policy for each new variation on a theme is like putting a thumb in a very leaky dike. Over time, it will take a lot of thumbs to stem the tide of the diversity of situations and environmental adaptability in a human system. Human systems continue to grow and evolve; however, policies that are written to insure uniformity assume the system is static. The authors believe that organizations need to develop new forms of order and cohesion that go beyond policy development and other traditional forms of control currently found in organizations. The following new forms of cohesion - core values, strange attractors, fractals and optimizing tensions between opposites, help build underlying order in organic organizations.

### ***Core Values***

Margaret Wheatley and Kellner-Rogers talk about the importance of core values as an aspect of our identity.<sup>2</sup> Dana Zohar believes that deep transformation is triggered only through deeply-held core values and the passion or commitment that they generate.<sup>3</sup> Our core values, the things we really care about, can shape our work and our behavior in powerful ways. When people's personal values match the organization's values, a natural alignment between the individual actions and the organization occurs. This removes the need for controlling mechanisms that are traditionally used to ensure alignment. However, if organizational goals are disconnected from or at odds with an individual's core values, a state of nonalignment is created, resulting in a low sense of cohesion within the organization. Core values allow organizations to achieve adherence to a common direction while maximizing individual freedom.

### ***Strange Attractors***

Another form of cohesion that can help maintain order comes from the science of chaos, which is the study of non-linear dynamic systems. Despite the surface chaos and seeming disorder in non-linear dynamic systems, there is an underlying order to the randomness. In chaos theory, scientists found that strange attractors defined the outer boundary within which the system operates.<sup>4</sup> There usually are a variety of strange attractors in a natural system, and their interplay dynamically defines the range of behaviors that exists in the system

For example, the core values parents impart to their children tend to create a boundary within which children experiment. When sons and daughters go to college, they continue to experiment; however, their choices are influenced or bounded by their core values. Human behavior is like a non-linear dynamic system. In a human system, our core values can sometimes act as strange attractors. Much like an invisible force field such as gravity, strange attractors shape behavior of individuals.

The concept of strange attractors might hold a key for organizing our institutions without the need for traditional control mechanisms such as performance appraisals. For example, "questions worth asking" can be used as a form of a strange attractor. By asking deep questions that have no immediate answers, employees begin to pay attention to their behavior. This, in turn, creates a greater awareness of their own choices, assumptions and relationships with others over time. The strategy of eliciting questions worth

asking and the energy that is generated by keeping them in front of the employees shifts the behavior of an organization without a formal change effort.

Core organizational values can also function as strange attractors in an organization. Core values can become the attractors that draw people together in an organization. If the core values are clear, individuals in an organization will use them to influence their daily choices. Thus, these core values, serving as strange attractors, can be a powerful way to create and maintain organizational cohesion.

### ***Fractals***

Order is generated in an organic system from fractals, another concept from the science of chaos. A fractal is a pattern that repeats itself on different scales. It can be a very simple operating rule that allows for infinite variation in the universe. If a tree has an operating rule embedded in its DNA that states that every branch on the tree will have two additional branches of equal length, the tree will eventually take on a symmetrical form, an umbrella-like shape that we sometimes see in nature. The fractal is revealed in every decreasing size of equal pairings of limbs, branches and twigs, going out of each succeeding branch.

However, if the tree has a different DNA code, a different shape would occur. If every branch that is formed on a tree had two branches of unequal length growing out of each limb, then it would take on an asymmetrical form. The beauty of a fractal is that while it allows for natural growth to occur, it also generates a consistent pattern by a simple operating rule tucked into the DNA. In trees, the fractal can be seen in both large and small scale. On each branch, the rule of equal or unequal branches applies, and each succeeding branch will create a similar replicating pattern as it grows.

In organizations, we have fractals that we grow. For example, schools have used writing across the curriculum as a fractal. In order to improve the quality of writing teachers have embedded writing in a wide variety of courses. Some businesses have used a commitment to the environment as a fractal to be embedded into all their business practices. We also can observe human fractals that occur in our larger society and eventually affect our organizations. For example the anti-smoking movement was driven in part by a greater awareness of the health risks of second-hand smoke. This led some public places, like airports and restaurants to provide smoke-free environments. This pattern or fractal has spread to many of our office spaces and organizations.

Positive fractals also can be nurtured and grown in organizations. For example, if employees are treated with integrity and authenticity, they may respond in kind by setting a further example for others in the organization. This modeling of a fractal is a very powerful way to change organizational behavior. In contrast with policies and procedures that often are resisted or seen as one more thing, fractals are grown in the informal experience of people. This informal experience can over time facilitate support for formal policies or procedures. However many of our organizations jump to formal policies to solve human problems instead of growing fractals first. Fractals can be grown on a departmental basis as well. A department whose members operate with integrity and authenticity can elicit similar behavior in other individuals and departments. Fractals are one more way of building order in an organic organization.

### ***Optimizing of Tensions between Opposites***

Another form of cohesion that can help create order and flexibility in organizations is the concept of dynamic tensions. Binary systems, which are mechanistic in nature, have only two values that are recognized: zero or one. Often, individuals and organizations think in binary, *either-or terms*. This either-or thinking presumes that there is either a right answer or a wrong answer. In organic organizations, however, the tension between opposites is seen as a natural state that indicates a healthy organization. It is healthy to have both change and stability in an organization because too much of one without the other can lead to either chaos or decay. In an organic organization, healthy tension between opposites, such as boredom and anxiety, can lead to growth, learning and evolution.

When we invite both stability and change to co-exist peacefully in an organization, the effect is what Stacey describes as "stable instability."<sup>5</sup> The tension between control and chaos allows exploration of flexibility and order. This kind of tension exists naturally in organic systems. Accepting and inviting tension into organizations is a different way of thinking about how organizations evolve. By resisting the urge to dichotomize issues, the relationships between opposites can be embraced. By not having to choose one over the other, we open ourselves and others to the possibility that an organization may need both of the opposite ideas to continue to evolve and innovate. Developing the personal and organizational capacity to allow

opposites to peacefully co-exist is an essential skill in complex organizations and, strangely enough, helps organizations coalesce around the *both-and* instead of the *either-or*.

### ***What do we really do?***

Using these new forms of cohesion--core values, strange attractors, fractals and optimizing of tensions between opposites--can bring order to an organic system. Understanding them is necessary in learning how to lead organic systems. Strengthening these forms of order will increase the freedom of individual behavior because control is no longer possible. The traditional and new forms of cohesion are summarized below.

#### **Traditional Control Mechanisms**

Goals  
Performance appraisals  
Procedures and policies  
Either-or thinking

#### **New Forms of Cohesion**

Core values  
Strange attractors  
Fractals  
Optimizing tension between opposites

If we were to overlay the emergent variables onto some of our organization's initiatives, we would see some familiar strategies. Some organizations have reinforced core values such as respect for self and others. Others are using service to the community as strange attractors for their employees, under the assumption that if employees are involved in positive activities they will experience a deeper sense of connection and community. Organizations experiment with fractals when they hire and support diversity at entry levels of management in the organization and support the upward movement of these individuals so that eventually all levels of the organization, including senior management, are diverse. A healthy fractal that starts small can spread to the larger organizational culture. Tensions have also been used to trigger behavior change. The tension of upholding the organizational standards when it comes to inappropriate behavior can be used as a teachable moment within the organization. Each of these strategies can trigger fluctuations in the environment. When such fluctuations persist, the culture eventually changes.

### **Leadership is Systemic and Organic**

Traditional principles of leadership are also derived from a machine metaphor. The leader is like a person who is driving a car and taking the organization to its destination. However, an organic system evokes different images of leadership. Leadership in an organic system requires a shift in what the leader pays attention to and a shift in focus. Leadership in an organic paradigm organizes around renewal, developing ways of being in relationship and facilitating learning.<sup>6</sup> A very important focus for leadership in organic systems is meaning making, which helps people see the underlying connection between their day-to-day work and the larger purpose.

Traditional leadership assumes that work is primarily done in the tangible realm of the system with things like production, products and resources, both human and material. While management will always focus on the tangibles, in an organic system the leadership focus shifts to the intangible--toward fields of energy. Energy in an organic system is a very important resource for organizations, one that needs to be recycled in order to continue to renew the system. Activities should generate energy rather than consume it. When people come together at a meeting, it is important to be conscious of how energy flows. There should be more energy at the end of the meeting than there was at the beginning; if not, something is wrong in the energy field. Leaders in an organic system look for ways to bring people together and design programs in ways that will generate energy.

Another important leadership process in organic systems is the use of the natural dynamics of the system to trigger change. Leveraged interventions can be a catalyst for triggering organizational change. For example, a president of an organization brought many speakers and new information into the system to teach people how to facilitate conversations that would increase the quality of relationships. This, in turn, renewed the system. The focus was on renewal, not on production. He believed that a growth in productivity would occur as a natural outcome as long as continual renewal of people took place.

One person cannot control an organic system, nor can one person understand it. Leadership in organic systems requires many people working toward a core purpose, all influencing in a common direction

the system at large. Therefore, models of collaborative, shared, systemic and multi-level leadership become more vital and critical in organic organizations.

As Drucker states, his ability to identify a trend before others see it is based in his ability in seeing the world as it is rather than how he wants to see it. We believe we collectively need to take the blinders off in order to see the organic nature of our organizations, rather than the mechanistic expectations that pervade our culture. Once the organic realities of human dynamics are seen, the new forms of cohesion and order described in this article can be used to better understand our organizations. It allows us to evaluate the control mechanisms currently in use and explore new forms of cohesion that may allow increased effectiveness to emerge in an organization. Finally, the shifts to organic realities and new forms of cohesion have an impact on leadership. The pivotal challenge for leadership is learning to lead organic systems so they can become self-organizing.

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1. See William Hahal, *The Infinite Resource: Creating and Leading the Knowledge Enterprise*. San Francisco: Jossey-Bass, 1998.
  2. See Margaret Wheatley & Myrna Kellner-Rogers, *A Simpler Way*. San Francisco: Berrett-Koehler, 1996.
  3. See Dana Zohar, *Rewiring the Corporate Brain: Using the New Science to Rethink How We Structure and Lead Organizations*. San Francisco: Berrett-Koehler, 1997
  4. For further elaboration on Chaos Theory, see James Gleick's, *Chaos: Making a New Science*. New York: Penguin Books, 1987 and Margaret Wheatley's *Leadership and the New Science: Discovering Order in a Chaotic World*. San Francisco: Berrett-Koehler, 1999.
  5. Ralph Stacey, *Managing the Unknowable: Strategic Boundaries between Order and Chaos in Organizations*. San Francisco: Jossey-Bass, 1992.

Kathleen Allen and Cynthia Cherrey have elaborated on new ways of working and leading in organic systems in their book, *Systemic Leadership: Enriching the Meaning of our Work*. University Press of America: Lanham, MD, 2000.