

CORPORATE EVOLUTION AND THE CHAOS ADVANTAGE

BY PHYLLIS KIRK

For many of us in the corporate world, our worst fear is organizational anarchy. We have visions of skyrocketing budgets, plummeting productivity, lack of accountability, and overall confusion if we loosen our rigid control over people and processes. From this perspective, chaos is to be shunned at any cost, because we view it as the harbinger of companywide disintegration and destruction.

But chaos, or a period of inherent unpredictability in a system, is a natural process. In living systems, chaos occurs at the beginning of the growth

cycle, where it can help organisms achieve higher levels of complexity. In nature, a system that thrives on chaos is dynamic and vital. On the other hand, a “stable” system is closest to entropy, which is closest to death. From this point of view, chaos is actually desirable, and order, lethal. Of course, decay is an integral part of any ecosystem, serving to fuel growth of new forms of life. But most of us prefer to help our companies prosper rather than become spare parts for the next generation of businesses.

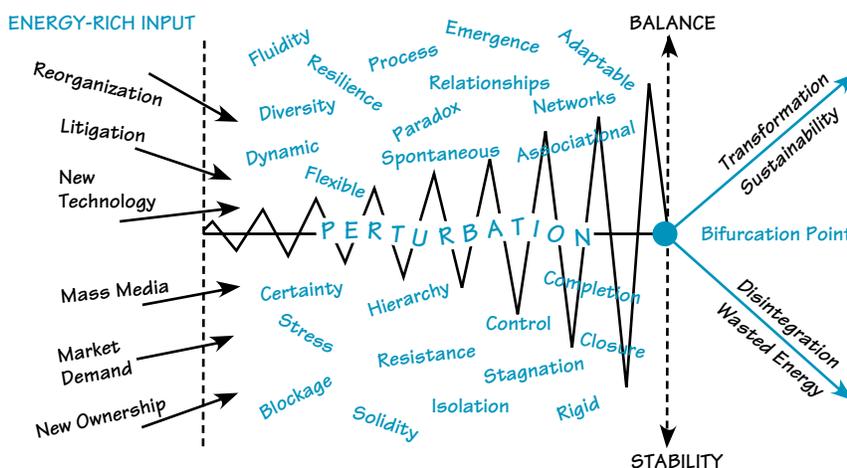
The truth is, even if we want to,

we can't avoid, control, or manage chaos. What we *can* do is learn to recognize our companies as living systems, understand how chaos functions within that context, and work *with* the process rather than against it. When we support sustainable growth through chaos rather than seek to eliminate it, then we begin to see our organizations and our choices differently. Partnering with chaos in this way can lead to exciting and inspiring new products, processes, and services, as well as a more fulfilled and energized workforce. It's hard work, but it can pay off over the long run.

So, how can we begin to model our corporations to reflect the success of healthy living organisms that evolve through chaos? How can we leverage the natural forces that operate within our businesses rather than trying to stifle them, at great cost over the long

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THE CYCLE OF DISSIPATIVE STRUCTURES



As a living system receives energy-rich input from the environment, the system becomes increasingly chaotic. This process of increasing agitation is called “perturbation.” At “the bifurcation point,” the system will either break apart or it will leap to a higher, more complex order now able to handle even more challenges.

This diagram, the Kirk Model of Dissipative Structures®, is based on Ilya Prigogine's Theory of Dissipative Structures.

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run? First, we need to take a closer look at the traits of living systems that are vital to evolving through chaos.

Key Characteristics of Living Systems

All social systems, including corporations, are living systems. As such, the components that make up an organization, including policies, cultural norms, job descriptions, and traditions, are continually changing. Information flows through this structure on an ongoing basis, feeding and guiding the change process. The enterprise grows and develops based on a certain pattern of organization, such as the company's purpose, vision, and unique product or service.

Some of the characteristics of healthy living systems that play a key

role in surviving—and thriving—through chaos are:

Constant Learning. A living system seeks information about what is working and what isn't through feedback loops. New forms of organization emerge as the organism adapts to its changing environment based on that feedback. Because a system learns through constant interaction with its environment, a business that is not constantly learning is dying. An organization that values "the way we have always done it" at the expense of looking beyond its boundaries at best practices may find its old fixes inadequate for solving new problems. For instance, trying to meet an Internet competitor by using traditional advertising schemes will probably result in declining market share.

Closed for Functions, Open for Information. In a healthy living system, boundaries to the outside world are not fixed. They are permeable membranes, through which information continually flows. For instance, look at a healthy cell and a cancer cell. When dye is dropped in the middle of a cluster of healthy cells bordered by a cluster of cancer cells, the dye will travel quickly through all the healthy cells. However, little, if any, dye will cross into the cancer cells. The walls of healthy cells aid communication. The walls of cancer cells are boundaries that block the flow of information. This phenomena has an impact on organizations, too—at The World Bank, for example, the literal and figurative walls of privacy and secrecy between departments had restricted sharing of key financial data, leading to piecemeal spending and waste.

Spontaneous Emergence of New Forms of Behavior. As parts join together to form a system, properties emerge that are not found in those individual elements but that belong only to the whole. For example, when carbon, hydrogen, and oxygen come together, "sweetness" emerges. Sweetness is an emergent property of sugar that cannot be found in any of its components. "The sweetness resides in the relationship," as Fritjof Capra, physicist and author of *The Web of Life*, has delightfully elucidated. In the situa-

tion mentioned above, the World Bank eventually instituted more open financial systems, making budgetary information readily available to all parties in the organization. When several departments realized that they were purchasing similar services, they were able to negotiate a single contract with a vendor at a significant discount over what they had been paying separately. This discount "emerged" when the parts (the different departments) joined forces into a more cohesive whole.

Balance far from Equilibrium. Of all of the characteristics of living systems that are vital to evolving through chaos, the ability to maintain balance far from equilibrium is perhaps the most crucial. We are used to thinking that being in equilibrium is a desirable state because of its connotations of orderliness and control. However, in nature, a system that remains at equilibrium is closest to entropy, which is closest to death. So a thriving system, rather than staying in a constant state of equilibrium, actually reaches a *flowing* balance, a balance of the whole. In a balanced system, at any given moment, a single activity seen in isolation may seem erratic, turbulent, or counterproductive to the actions of other participants. However, when seen in the larger context, that behavior is something that brings balance to the whole. In an organization that accepts this principle, for instance, participants trust that the performance of a cutting-edge product that seems like a hit-or-miss proposition will be offset by that of a tried-and-true work horse. On the other hand, in a stable system, such experimental initiatives may be squelched for "rocking the boat" too far in an uncertain direction.

As we'll see in the following section, all of these characteristics play a key role in determining an organization's—or an organization's—fate as it navigates the stormy waters of chaos.

Chaos in Living Systems

The classical interpretation of the Second Law of Thermodynamics says that energy flows spontaneously only from an object of hotter temperature to a colder one. From this perspective, the world is similar to a mechanical clock

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Managing Editor: Janice Molloy
janicem@pegasus.com

Publisher: Daniel H. Kim

Editors: Laurie Johnson, Kellie Wardman O'Reilly

Production: Julia Kilcoyne

Circulation: Julie McCay Turner
juliet@pegasus.com

Advisory Board: Sharon A. Els, *Pugh-Roberts Associates*; Michael Goodman, *Innovation Associates*; David Kreutzer, *Successful Systems*

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Editorial and Business Address:
Pegasus Communications, Inc.
One Moody Street, Waltham, MA 02453-5339
Phone (781) 398-9700 • Fax (781) 894-7175
www.pegasus.com

that is slowly winding down, atrophy-
ing and dying, as energy dissipates from
it into the surrounding environment. In
1977, a scientist named Dr. Ilya Pri-
gogine disproved this hypothesis. With
his Theory of Dissipative Structures, he
mathematically proved that living sys-
tems can actually develop in an upward
spiral of ever-increasing complexity.
Prigogine received the Nobel Prize in
Chemistry for proving this observation.

Prigogine's theory shows that all
living systems are involved in a cyclical
process (see "The Cycle of Dissipative
Structures" on p. 1). As they receive
"energy-rich input" from the environ-
ment, the level of stress within the sys-
tem rises—the system becomes
increasingly chaotic. For natural sys-
tems, this input may include heat, light,
and nutrients. For companies, this input
might take the form of new technol-
ogy, changes in government regulations
and legislation, mergers and acquisi-
tions, training, emerging markets,
increased customer expectations, litiga-
tion, new competition, and so on.

The "entrance" into the system of
this new energy or information sets in
motion a number of feedback loops
that create increasingly dramatic results
over time. The news of a new competi-
tor taking a major part of your market
share might result in a flurry of emer-
gency planning meetings, the adoption
of new strategies, the need for people
to work overtime, and employee
burnout, absenteeism, and illness. Over
a few months, these actions might lead
to decreased efficiency, more rework,
declining quality, and increased cus-
tomer dissatisfaction and defection. The
cumulative impact of all of these
actions amplifies the original fluctua-
tion begun by the news of the new
entrant in the industry.

Prigogine labeled this process of
increasing agitation "perturbation."
Depending on how the organism—in
this case, a corporation, department, or
team—handles this perturbation, one
of two things will happen. That system
or subsystem will either break apart
and disintegrate as described above, or
it will "snap," leaping to a higher,
more complex order now able to han-
dle even more challenges. This decisive
moment is what Prigogine called "the

bifurcation point."

A simple example of disintegration
at the bifurcation point is a rock tossed
into a fire pit. The rock absorbs the
intense heat—the energy-rich input—
which sets its molecules into increas-
ingly rapid activity. When the rock's
structure can't assimilate any more heat,
the rock explodes. Shattered pieces land
in a heap, with the energy from the
heat dissipated in the air.

Rush-hour traffic is an example
of transformation to a higher level of
organization. During periods of low
traffic, cars move seemingly randomly
from lane to lane and at varying
speeds. As traffic increases, more cars
enter the system and jostle for posi-
tion, leading to temporary backups. At
the bifurcation point, a pattern sud-
denly clicks into place, allowing a
larger number of cars to move
smoothly along the highway.

For an organization, the explosion
at bifurcation may take the form of
mass exodus from the corporation as it
enters a death spiral, or transformation
in the form of reorganization, as
groups spin off into new business units
or new alliances are formed. But how
can a business place itself on the
upside of the chaos conundrum? How
can we know if we will land on our
feet in a higher, more complex order
with richer, more fluid networks of
relationships, or end up on our derri-
eres in a heap of spare parts formerly
known as a company?

"Stable" vs. "Balanced" Systems

According to Fritjof Capra, "The his-
tory of the organism tends to be
determinative at bifurcation point."
Thus, the choices that we make when
new information first hits the system
and then when we find ourselves in
the midst of chaos can help determine
the future of our corporations.

During the period of chaos, an
organism reacts somewhere along a
continuum between the two extremes
of a system close to equilibrium (a
"stable system") or a system balanced
far from equilibrium (a "balanced sys-
tem"). As shown in the bottom half of
"The Cycle of Dissipative Structures"
diagram, a stable system possesses

characteristics that limit the amount
of new data that enters the system
and the distribution of any informa-
tion that does permeate its bound-
aries. A corporate culture that focuses
primarily on stability will seek to
deny, suppress, "interpret," or control
the new information in a way that
maintains the company's status quo.
Because this knowledge is distributed
on a "need-to-know basis," most
employees are blocked from incorpo-
rating the new data in their work.

This behavior can ultimately con-
tribute to disintegration, because
responses to changing conditions, new
relationships, and out-of-the-box
brainstorming are suppressed. For
instance, an organization that seeks sta-
bility by only hiring people who think
like current employees will have a nar-
row range of thinking to draw on
when new opportunities emerge. So a
company that attempts to enter the
global market may make costly mis-
takes if it fails to include representatives
of the new client culture in decision-
and policy-making. This kind of over-
sight may have led to errors like Pepsi's
translation of its "Come alive" tagline
into Chinese as "Makes your ancestors
rise from the dead."

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BALANCE-SEEKING BEHAVIORS

- Focus on questions more than answers
- Act based on intellect connected to emotion
- Be playful and engaging
- Be open and receptive to new ideas
- Draw out differing perspectives
- Be comfortable with ambiguity and paradox
- Take the long view
- Believe in the goodness of people
- Believe that people want to do a good job
- Collaborate with others
- Cultivate a sense of adventure rather than fear
- Listen
- Trust

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Conversely, systems seeking balance are agile, fluid, and responsive. The boundaries of a balanced system are relatively permeable; there is a constant flood of new information coming into the corporation from the outside world. The characteristics shown in the top half of the model—such as resilience, emphasis on process, diversity, dynamism, acceptance of paradox, and spontaneity—sustain growth amid chaos by allowing this new knowledge to circulate throughout the system, where different departments and employees can put it to productive use.

Thus, a corporation may hedge its bets in the direction of transformation by establishing a history of balance-seeking behaviors (see “Balance-Seeking Behaviors” on p. 3). Part of striking this kind of balance includes not becoming exclusively committed to either extreme. Most companies cling tightly to their existing identity, organizational charts, and rules at the expense of letting in new energy, ideas, and people. As shown in the diagram “Flow of Sustainability in Chaos,” this end of the spectrum results in death from too much rigidity, order, and stagnation.

But at the other extreme, if a corporation fails to develop a strong sense of identity and vision, people may not know what to do with new information and how to use it productively. In that case, the business runs the risk of death from anarchy and incoherence. In order to maintain a sustainable organization in the face of chaos, it’s important to function *in the range between the two extremes*, where the energy of the new information is comfortably accommodated by the organization’s identity.

In this way, in order to build agile, responsive organizations ready to face ever-more complex challenges, we become what Dee Hock calls “Chaords,” or better yet “Chaordists,” artists at blending chaos and order. Embracing chaos does not mean we become corks bobbing in stormy waters, moving this way and that at the whim of the elements. Instead, it means that we help our organizations become more open to receiving input from the environment, converting this input into learning, and spontaneously emerging into new forms of structure and behavior. But first, we must overcome one major stumbling block that natural systems don’t face—our own physiology and psychology.

Opening Our “Filters”

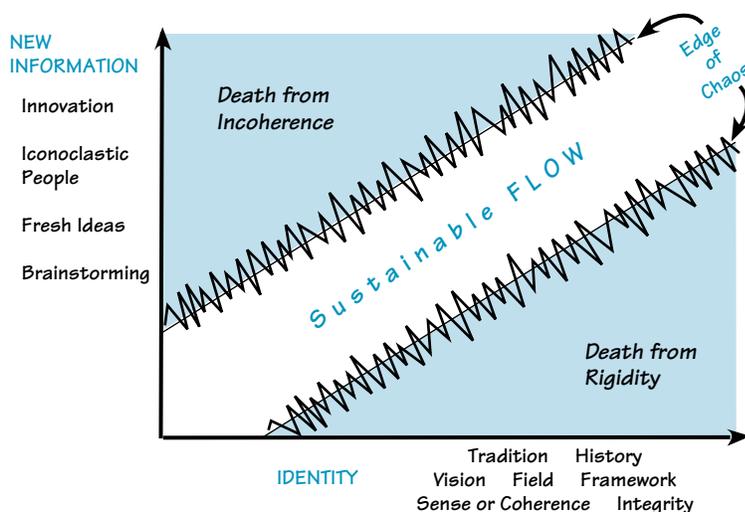
As Bell Labs scientist Frank Clement put it, “Molecules don’t have an attitude.” But humans do. Our brain is actually structured to filter incoming information to prevent sensory overload—it only takes in information that agrees with our existing beliefs.

Thus, people within an organization *by design* reject data that does not fit the prevailing paradigm. They screen out information they think might be harmful to them, their team, and the company. But this natural process is potentially damaging to organizations—because when a system doesn’t receive new or accurate information regarding its changing environment, it cannot adjust.

For example, a cancer cell does not receive feedback from the larger system. It operates in isolation, ignorant of the effect it has on the whole, not communicating with or even aware of neighboring cells. A cancer cell takes resources from the larger system to sustain itself, but it does not contribute to that system. Indeed, it can ultimately destroy the system on which it depends. A healthy cell, on the other hand, is in constant communication with other cells. It bases its actions on information it receives from the whole system. It draws resources from the whole, and in turn it produces products that the system needs to grow in order to sustain the whole.

So how can we help our corporations, as living systems, benefit from the information-rich environment in which they operate? We must consciously choose to open our filters to receive all pertinent information, instead of blocking out data that we perceive as threatening to the established way of doing things. This openness gives us a broader perspective on promising opportunities, the market in which we operate, and our client base than we previously had. For instance, instead of rejecting as irrelevant a competitor in Georgia that recycles carpets, a manufacturer in California could explore ways to replicate the process and gain a new market share of environmentally conscious customers. Or it could broach the possibility of

FLOW OF SUSTAINABILITY IN CHAOS



Most companies tend to cling tightly to their existing identity at the expense of letting in new ideas. This end of the spectrum results in death from too much rigidity, order, and stagnation. But if a corporation fails to develop a strong sense of identity and vision, the business runs the risk of death from anarchy and incoherence. Thus, it’s important to function *in the range between the two extremes*.

partnering with the competitor in a mutually beneficial alliance.

To open those filters, we need to watch for “filter flags,” or signs of those subtle blinders that convince us that we are always right: sour-grape responses, arrogance, and certainty. The best antidotes to this behavior are curiosity, openness, a willingness to explore new options, ongoing benchmarking, research into best practices, and hiring lots of young, iconoclastic thinkers. The growing list of organizational learning tools, such as dialogue, advocacy/inquiry, After Action Reviews, celebration of “learnings,” and café conversations, can help foster this new openness.

Supporting the Flow of Information

In any healthy self-organizing system, the flood of clear, unadulterated feedback is ultimately the source of both new order and greater complexity. Greater complexity literally means more routes for information to travel through the organization and more networks of relationships. It's like the brain—the more dendritic pathways you have, the greater the chance that you will develop new combinations of ideas to form new solutions. A more complex organization has access to more possible solutions to problems and a greater ability to handle change.

These information pathways are even more critical in today's business climate. With change happening so dramatically, we may not be able to apply yesterday's solutions to today's problems. In this brave new world, then, *how* you achieve a goal is as important as actually reaching it, because it is the *how* that helps determine what happens at bifurcation. To this end, many organizations are finding success with policies such as job sharing, telecommuting, casual dress, flex time, and “creative” work spaces, in an effort to support the emergence of employees' innate productivity.

But many managers still feel accountable for making sure that people are productive and don't waste time. This belief often results in a fundamental lack of trust on the part of management and, over time, even more

rigid policies. By focusing on creating the conditions for success rather than on controlling the troops, leaders manage people with a renewed sense of purpose and inspiration. A healthy system ultimately knows what it needs to thrive. This knowledge emerges and manifests itself throughout the organization. Structure, patterns, and processes will spontaneously emerge sooner rather than later if corporations support rather than block efforts to diffuse these learnings.

For that reason, when you have had a breakthrough, such as a successful team effort, recreate the *conditions* that led to that success (such as the autonomy to make decisions or the use of organizational learning tools) rather than recreating the *structure* (such as two engineers plus one mechanic plus three IT people). Beware of cookbooks with recipes for easy solutions to complex issues. There are no user's manuals for managing living systems. At best, there are guidelines for how to work *with* a system rather than *against* it (see “Guidelines for Participating with Chaos”). The goal is to create systems that are fluid and adaptable. The glue is shared excitement rather than assigned tasks.

Learning to Work with Chaos

Accepting chaos as healthy for organizations isn't a simple cure-all or a fad. It is the end of a 300-year blind spot in the way of thinking that began with Newtonian physics and Cartesian worldview. The dominant culture took Newton's brilliant model of how the world was put together, which was correctly predictive within a limited domain, and reduced all of life to a mechanistic box. This parts-and-pieces thinking is entrenched in every fiber of corporate life. The ensuing fragmentation of departments, teams, projects, programs, markets, and clients will take time and awareness to overcome.

But systems don't heal through force. Learning to work with chaos means removing barriers, not pushing change to happen. Because it took us three centuries to get here, it is important for us to be patient and compassionate with ourselves as we shift our way of thinking. As over-

achievers, it may be challenging for us to let go and trust self-organization. However, the rewards can be great: everything from fewer stress-related diseases and heart attacks to the deep relief that leaders feel when they realize that they don't have to have all the answers. Corporate leaders will burn out less quickly when they understand that their job has more to do with reading the weather and surfing the waves than pushing the river.

As we learn to trust small examples of chaos turning into new structure, we will come to accept intense, large-scale chaos as the harbinger of the next, more complex level of organization and ongoing success. We will watch as the chaos dissolves and new forms emerge, and we will wonder why we fought it so hard for so long. ■

Phyllis Kirk (pkirk@bcal.com) is a humanist, futurist, “recovering” lawyer, adventurer, speaker, mother-sister-aunt-partner, and the CEO of the Boulder Center of Accelerative Learning.

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GUIDELINES FOR PARTICIPATING WITH CHAOS

- Decrease the number of formal meetings
- Make mistakes faster
- Support the whole person with innovative practices
 - On-site childcare
 - Flexible hours
 - Telecommuting
- Frequently step back and look at the big picture
- Continually redesign roles
- Focus on answer-seeking more than on answers themselves
- Use face-to-face meetings rather than emails, memos, and voice-mails
- Schedule weekly review of learnings (not “mistakes”)
- Constantly ask, “What's working? What isn't?”
- Create measurements of success that include “health” and “happiness”