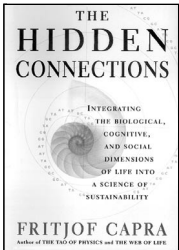




A SYSTEMIC APPROACH TO THE CHALLENGES OF OUR TIMES

BY JANICE MOLLOY



The Hidden Connections

by Fritjof Capra

No one can say that renowned physicist Fritjof Capra shies away from a challenge. In his latest book, *The Hidden Connections: Integrating the Biological, Cognitive, and Social Dimensions of Life into a Science of Sustainability* (Doubleday, 2002), the award-winning author spans the course of life on Earth, from the origins of the first protocells 3.9 billion years ago to the present day, to develop “a unified view of life, mind, and society.” Along the way, he draws on the latest scientific and conceptual breakthroughs from across the spectrum of the physical, natural, and social sciences. His ultimate goal in this surprisingly compact volume is to “develop a coherent, systemic approach to some of the critical issues of our time”—including corporate malaise, environmental degradation, and economic globalization.

This whirlwind journey through almost every aspect of existence might seem daunting at first, but Capra’s readable style links complex revelations from the leading edge of science in a clear and comprehensive framework. Capra begins at the beginning, with an examination of the simplest living system—a bacterial cell. Based on new findings, he defines a cell as “a membrane-bounded, self-generating, organizationally closed metabolic network; . . . it is materially and energetically open, using a constant flow of matter and

energy to produce, repair and perpetuate itself; . . . it operates far from equilibrium, where new structures and new forms of order may spontaneously emerge, thus leading to development and evolution.”

His underlying premise is that these traits occur in all living systems: “there is a fundamental unity to life . . . different living systems exhibit similar patterns of organization.” For example, the network is one theme that characterizes all life forms. From this perspective, the author surmises, “a human organization will be a living system only if it is organized as a network or contains smaller networks within its boundaries.” These networks, in turn, must be self-generating: “Each communication creates thoughts and meaning, which give rise to further communications. In this way, the entire network generates itself, producing a common context of meaning, shared knowledge, rules of conduct, a boundary, and a collective identity for its members.” Such “communities of practice,” as organizational theorist Etienne Wenger calls such webs, develop within the formal structure. Yet these informal structures are the ones that support learning, creativity, and change.

“Disturbing” Systems

Ensuring an organization’s “aliveness” has profound implications for how managers behave. As Capra puts it, “A machine can be controlled; a living system, according to the systemic understanding of life, can only be disturbed. In other words, organizations cannot be controlled through direct interventions, but they can be influenced by giving impulses rather than instructions.” For people to respond constructively, the “disturbances” must

be meaningful to them; that is, employees need to participate in the planning process rather than be put in the role of passive recipients.

Capra also focuses much attention on another characteristic of living systems—“emergence,” that is, novelty that results from periods of instability. He explains how this principle works in an organization: “The event triggering the process of emergence may be an offhand comment, which may not seem important to the person who made it but is meaningful to some people in a community of practice. Because it is meaningful to them, they choose to be disturbed and disseminate the information rapidly through the organization’s networks.” As the information circulates, people build on it, until the organization can no longer integrate the concept into its existing structure. “At this stage, the system may either break down, or it may break through to a new state of order . . .” The resulting leap forward springs from the collective creativity of those in the organization. Capra concludes that “since the process of emergence is thoroughly nonlinear . . . it cannot be fully analyzed with our conventional, linear ways of reasoning, and hence we tend to experience it with a sense of mystery.”

Leadership, then, involves finding the right balance between designed structures—which give the organization stability—and emergent ones—which represent the organization’s vitality. By understanding the different stages of emergence, a leader can actively support the process; for instance, by nurturing communication networks, creating a learning culture, being open and honest, and valuing experimentation. At the same time,

“leaders who facilitate emergence use their own power to empower others. The result may be an organization in which both power and the potential for leadership are widely distributed.”

Reshaping the Global Economy

The idea of organizations as living systems is far from new. But Capra’s mission in this book extends well beyond simply applying the latest scientific discoveries to the organizational world—he builds a case for reshaping the global economy to better mirror and sustain natural processes. He cites the dire consequences of the current economic system, which he calls “life-destroying” rather than “life-enhancing”: “social

disintegration, a breakdown of democracy, more rapid and extensive deterioration of the environment, the

Leadership involves finding the right balance between designed structures—which give the organization stability—and emergent ones—which represent the organization’s vitality.

spread of new diseases, and increasing poverty.” The author places much of the blame for this state of affairs on

“unfettered capitalism” and the principle that “money-making should always be valued higher than democracy, human rights, environmental protection, or any other value.”

But Capra sees signs that grass-roots organizations ranging from feminist groups to the ecology movement are beginning to sway our culture in positive directions. In different ways, these forces for change are making our value system more compatible with the demands of human dignity, ecological sustainability, and life itself than it currently is. Capra might argue that this quest is his—and our—biggest challenge of all. ■

Janice Molloy is managing editor of *THE SYSTEMS THINKER*.