Book Review

Fritjof Capra
The Web of Life: A New Synthesis of Mind and Matter
Hammersmith, London: HarperCollins, 1996

Reviewed by Eleanor Glor

One of the main determinants of what we think is how we think about it. Is innovation the product of management will and employee implementation or is it an organizational output that depends very much on how the organization functions as a system?

The whole systems approach to living systems, including organizations, is not yet widely used in management, but it provided the basis for major improvements in understanding in the biological and physical sciences during the twentieth century. Fritjof Capra, a research scientist in particle physics, and currently the Director of the Center for Ecoliteracy in California, has woven a fascinating whole systems picture of life in The Web of Life. He explains for the first time to my satisfaction why organizations might be regarded as living things–put very basically, because they exhibit the three criteria of life–pattern, structure and process.

Beginning at the beginning, Capra describes the patterns followed by the pre-life, then the early life forms on earth. He explains how each created the conditions that made the next stage of life possible, and how life on earth today forms a whole system that is in dynamic balance. It changes all the time, but maintains a balance of the conditions that make life as we know it possible. The oxygen in the air, for example, a product of bacteria and plants, must be maintained as a proportion of the atmosphere between 15 and 25 per cent. Below that level nothing would burn–including the plants and animals that we burn (digest) in our alimentary tracts. Above that level, everything would burn. The necessary balance has now been maintained for billions of years, despite the sun increasing in intensity by 25 per cent and a crisis of too much oxygen about two billion years ago.

Capra goes conducts a tour-de-force of theories that contribute to understanding life, such as cybernetics and chaos theory (see Notes on an Innovation Salon on Chaos), culminating in his theory of how life developed on earth–each development incorporating the former in the web of life, to develop the totally interdependent ecology that we have today. Although this theory is of interest to us all, especially we who live in the developed world and interfere so much in that web, I paused over the realization that organizations function in the same way.

Of course organizations follow patterns. We have all observed this–bureaucracies are hierarchical, new companies innovate most. But for me the realization that how an organization produces, incorporates, and responds to innovation is probably a product of and part of how it does everything else was very helpful. I had realized three or four years ago that innovations seem to fall into patterns, and I have been trying ever since to figure out exactly what those patterns are and what produces them. Capra has helped me realize that those patterns may be the

same patterns that the organization follows when it is not innovating, the result of the dynamic balance the organization maintains vis-a-vis the rest of the world and within itself.

My frustration as a person interested in innovation, working within a large, bureaucratic organization that does not innovate very much, and usually does so only in response to direction from the top has now been explained. So to some extent has my frequent inability to interest my employers in other approaches–continuous quality improvement, employee empowerment, new models for understanding public administration reforms. These approaches have not been of interest because they do not fit the patterns of how the government functions. Others of course learned this long before me, adapting their approaches to the top-down, extrinsically motivated, low challenge atmosphere of a large government bureaucracy. Now it makes more sense to me as well.

So, what did I learn about how to intervene in such a system? Transformational change might work, given a big enough change in ideology and will at the top. Pockets of innovation can develop, egged on by local cooperation and will. But continuous innovation could develop too, if the organization got into a self-reinforcing feedback loop, a virtuous circle, that supported a bottom-up, intrinsically motivated, high challenge pattern.

Capra has gone much further. He has succeeded in producing a highly-integrated, readable, plausible explanation of the origin and continuation of life on earth. Not a small feat.

About the Author:

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