

LIVING ORGANIZATIONS AS SELF ORGANIZING SYSTEMS

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[Implications of some ideas from the physical chemist and Nobel Laureate Ilya Prigogine]

Effective organizations are regarded by their leaders as living organisms with a capacity for self-organization. To be self-organizing means that the system's structure, function, and basic organization is determined by the organism itself rather than having critical functional boundaries placed upon it by the environment. This does not mean, however, that it does not interact with its environment. On the contrary, it is constantly sending out and receiving back messages that permit it to continuously adapt to the changing internal and external conditions influencing its essential health, effective functioning, and overall survival. The adaptations it makes, however, do not determine its essential structure or intrinsic order. Those attributes are determined by the organism itself according to its own nature and persist over time and through changing circumstances. For example, our pancreas replaces nearly all of its cells once a day; every three days or so the stomach lining replaces itself; all of our white blood cells are replaced after only ten days; and nearly all of the protein in our brains is replaced every month. Nonetheless, our basic pattern of organization remains recognizable to our family and friends and we can continue to recognize them using the same brain information. This capacity for extraordinary change while maintaining essential form is a key characteristic of self-organizing systems and living organizations.

Leaders in effective organizations will understand this natural phenomenon of life in modern organizations. They will support and enable two principle qualities of self-organizing systems -- **self-renewal** (their ability to continuously renew their essential components in a manner that preserves their basic integrity) and **self-transcendence** (their ability to creatively extend their influence beyond their ordinary boundaries and learn, innovate, and evolve beyond their original form).

Living organizations possess the capacity to defy entropy -- the tendency for all closed systems to proceed from order to disorder until all energy has lost focus. Living organizations continuously exchange energy with their environment, as open systems, and thereby renew

themselves continuously. Leaders in such systems must assure that there is a reliable supply of organizational energy to support and make use of this energy exchange so that the essentials for life may be sustained. In animals, this is called metabolism. Without reserving some of its essential energy for digesting food and exchanging oxygen for carbon-dioxide, the organism will die. In organizations the critical ingredients to be exchanged with the environment include information, human resources, creative ideas, and raw materials for products and services.

Self-organizing systems tend to compose themselves according to their own preferences or patterns. Living organizations have their mission and goals, their reasons for coming into being and continuing to exist. In order to sustain their life, living organizations often develop what has come to be called “core competencies” -- capacities for action that are particularly well developed and that directly support achieving the organization’s mission. The essential structure of the living organization will take its shape around these capacities and preserve them even in the face of difficulties and resistance.

All living systems eventually wear out and die but they have a way to extend their influence even beyond their death -- reproduction. They create themselves in new form all over again and begin life anew with all of its dangers and potentials. For Natural Leaders, the process of reproduction is mentoring. Mentors guide the development of young leaders helping them to think critically and creatively, formulate values to guide effective and right actions, and act with courage and conviction.

Organizationally, the reproductive process is “spin-off systems” that chart the territory for new enterprises. General Motors is reproducing itself by creating The Saturn Corporation, an organization that has as part of its mission the recreation of how a car company best operates and sharing its innovations with the rest of the GM Corporation.