

INTRODUCTION

BioDynamic Enterprise™ (BDE) is modeled on Natural systems. Like a healthy ecosystem, BDE directs an organization's leadership, processes, and structure toward sustainable performance through efficient communication, rapid adaptation and constant innovation. Probably the most important word in that definition is “sustainable”, meaning that decisions are made in pursuit of the long-term health of the organization and its social, environmental, and economic contexts.

BDE vests power in a group of people who interact regularly around a common aim. While BDE offers a decision making process that can be used outside of its prescribed structure, the processes and structure work most powerfully as a single integrated model that is proactively adopted by an organization as its operational methodology. Like representative democracy, which includes a governance structure i.e., executive, legislative, and judicial branches, and a decision making process (majority vote), BDE is a complete system. It includes structure, processes, and supporting systems and tools.

Ultimately BDE is a system in which the concept of distributed leadership is inherent. Through efficient communication, closed loops of activity that prompt innovation and creativity, and systematic responsiveness to the Triple Bottom Line of sustainability, BDE bridges the gap between theory and practice. It is not a system designed to rob power from some people and invest it in others. Rather it is designed to steer power in a way that creates equivalence among participants.

BDE draws upon the principles and practices of Sociocracy, as articulated by Gerard Endenburg, Triple Bottom Line, as articulated by Paul Hawken, and others, and Biomimicry, as defined by Janine Benyus.

Sociocracy was first envisioned by Kees Boeke, a Dutch educator and Quaker who ran a school during WWII, in which he developed a model for including the school's children in serious organizational decisions. One of his students, Gerard Endenburg, became an electrical engineer. He applied his understanding of electricity, cybernetics (the science of steering), and the emerging systems theory to develop Boeke's idea into a cohesive body of theory and practice. Endenburg tested and honed Sociocracy using Endenburg Electrotechniek, Inc, over a thirty year period as his learning laboratory. Today Endenburg Electrotechniek is a highly successful company, and Gerard is a professor and Academic Chair of the Economic Science and Industry Dept. of University of Maastricht.

Triple Bottom Line was first articulated by Paul Hawken in 1993 in *Ecology of Commerce: A Declaration of Sustainability*, John Elkington in 1994, in *Cannibals with Forks: the Triple Bottom Line of 21st Century Business*, and Amory Lovins in *Natural Capitalism* in 1998. The concept suggests that in the business world, sustainability represents a balanced pursuit of social, environmental, and financial success, and further, that this broad focus offers long-term, self-reinforcing growth and development to the company, its community, and the planet.

In 1997, Janine Benyus authored *Biomimicry: Innovation Inspired by Nature*. In this groundbreaking book, she postulated that the natural world offers humans the most successful model for innovation in product and process development. Today the Biomimicry Institute consults with numerous corporations that bring biologists into the board room, the manufacturing plant, and the laboratory in order to prompt more efficient and effective design.

BioDynamic Enterprise™ makes a significant contribution to the definition of sustainability for business organizations, integrating the ideas and practices of these three thought streams into a unique model of organizational governance.

Benyus articulated nine core biological principles and described their presence in many ecosystems, among them the tallgrass prairie. The following document first gives an example of the biological manifestations of each of these principles as they apply to the tallgrass prairie. It then considers conventional business practices and BioDynamic Enterprise™ practices, drawing parallels with and incongruities from these principles.

AN EXAMPLE FROM NATURE: THE TALLGRASS PRAIRIE

The Tallgrass Prairie

Nature Runs on Sunlight



The animals, plants, insects, and fungi that make up the tallgrass prairie ecosystem are entirely powered by the sun. Photosynthesis, the metabolic process by which prairie plants transform solar energy into chemical energy, combines water, carbon dioxide, and light to drive and renew all activity within this system.

Nature Taps the Power of Limits



In the natural world, limits are treated as design constraints rather than obstacles. The tallgrass prairie is subject to extremes of harsh weather, including furious downpours, blistering sun, and bitter cold. Summer lightning in times of drought results in perennial fire. Disease and pests periodically attack the prairie, and wind and water can easily wash away vital soil. These limitations engender ingenious adaptations- deep rooted grasses that dig for rain and spring forth following fire, disease-resistant microorganisms, drought-hardy grass varieties, leaves that turn rushing downpours to diffuse mist, and dense, diverse foliage that staves off weeds and pests. Such adaptations permit the prairie to optimally flourish under conditions that would destroy many other ecosystems.

Conventional Enterprise

In corporate and public governance, “sunshine” is a term of art, connoting openness to scrutiny. Conventional business may be secretive and adversarial. It asymmetrically distributes knowledge, often resulting in a we/they dynamic that divides management from workforce, giving rise to a culture of privileged access.

Too often, conventional businesses ignore the limitations of the societies, ecologies, and economies in which they function, neglecting reciprocal learning and growth, and awaiting regulation or sanction from without to signal and address dysfunction within. In conventional businesses, disagreement among colleagues and with superiors may be punished or otherwise squelched, rather than tapped as a source of information. Those who disagree with the boss may be termed “difficult” and their input undervalued or excluded.

BioDynamic Enterprise

BioDynamic Enterprise (BDE) is a system of structure and process that enables a culture of transparency, openness, and integrity. These qualities enhance all aspects of organizational performance.

With BDE, limits drive innovation. It minimizes the possibility of an organization's being selected against ecologically, economically, or socially by working within the external limitations imposed by the Triple Bottom Line. BDE also taps the power of limits internally. In this system, every individual in a company belongs to a policy decision making body, or “circle” relative to her function in the organization. BDE establishes equivalence among members of each circle. This equivalence creates the safety to express objections, which are then used to frame the limits that prompt innovative design.

AN EXAMPLE FROM NATURE: THE TALLGRASS PRAIRIE

The Tallgrass Prairie

Nature Uses Only the Energy It Needs



The tallgrass prairie flourishes in Central North America, where bouts of rain punctuate weeks of harsh sun. In order to cover their energy needs in dry times, drought resistant crops conserve their energy, storing it primarily in their roots, which make up 70 percent of the prairie's living weight. This method of energy conservation serves the dual function of protecting grasses in the event of fire.

Whereas a wheat field in the same climate requires multiple applications of pesticides and oil-based fertilizers, the tallgrass prairie is highly internally efficient.

Conventional Enterprise

A great deal of a business's energy goes to making decisions large and small. In conventional businesses there is frequent confusion and uncertainty regarding who makes what decision, how and why. Meetings may be unnecessarily long, marked by aimless discussion, and result in few or no decisions. It is common to hear the following:

- *"If only I didn't have meetings, I could get my job done."*
- *"We have meetings about having meetings."*
- *"Well, that was our decision at the meeting, but damned if I'm gonna do that."*

Further, an individual's level of influence in such a setting generally relates to his or her power (positional, charismatic, etc.) in the group. This dynamic—"politics"—is an energy-intensive interpersonal process that often results in burnout, stress, poor leadership choices, and lack of effective communication.

Personality-dependence is rampant in conventional business. This undermines long-term organizational continuity and is highly inefficient because each time a seasoned participant leaves the organization, his institutional knowledge leaves with him.

BioDynamic Enterprise

In BDE decision-making, discussion is directed by a specific meeting format, and limited to that which is needed to produce a decision with no objections. BDE promotes task clarity through its system of precise work allocation and by defining the functions of "leading, doing, and measuring" relative to each circle's work. Policy decisions, including current approaches and procedures, are systematically codified, reviewed, and adapted in response to internal and external change. This combination of productive meetings, clear work allocation, and systematic policy codification maximizes efficiency while minimizing personality-dependence and organizational politics.

AN EXAMPLE FROM NATURE: THE TALLGRASS PRAIRIE

The Tallgrass Prairie

Nature Fits Form to Function



The grasses of the tallgrass prairie have perennial functions. They must hold soil, sustain the animal population, and collect water throughout the year. Therefore, of the hundreds of plant varieties that make up the prairie, more than 99.9% are perennial. This further serves the function of enabling the grasses of the tallgrass prairie to grow very early in the spring, giving them an advantage over invasive weeds.

Nature Recycles Everything



Perennially growing and dying back, the grasses and animals that are the most visible components of the tallgrass prairie create a constant stream of waste. An army of insects, fungi, and microorganisms transform this waste into the very nutrients and hormones that stabilize and support further plant growth (and by extension animal life), thus exemplifying a closed loop system in which no “waste” is ever wasted.

Conventional Enterprise

One way of fitting form to function in business is to communicate the right information to the right people at the right time. Conventional business communication may be poorly targeted, resulting in the common experience of information as “noise.”

In decision making, recycling is the use of the results of previous decisions to inform subsequent ones. In contrast, personality-driven ideologies steer decisions along pre-defined paths regardless of feedback. Moreover, this pattern of linear trajectories versus closed loops can result in the notion that innovation is the exclusive purview of divinely informed executive leadership. Even when businesses solicit measurement data from each level of the organization, it is often untimely, delivered to the wrong people, irrelevant, or goes unapplied.

BioDynamic Enterprise

Within BDE, information is specifically targeted to only those parts of the organization to which it has functional relevance.

Closed loops of frequent measurement, combined with lack of ideology enable organizations using BDE to nimbly learn from and adapt to internal and external change. BDE designs data collection to gather information needed to optimize organizational efficiencies and performance. Measurement data directly influence the subsequent decisions that most benefit from their input, hard-wiring an informed renewal process into the business structure.

AN EXAMPLE FROM NATURE: THE TALLGRASS PRAIRIE

The Tallgrass Prairie

Nature Rewards Cooperation



The tallgrass prairie abounds with interdependencies. For example, the roots of the ubiquitous big bluestem host several microorganisms, such as the arbuscular mycorrhizal fungus. This fungus, in turn, provides critical hormones without which the big bluestem cannot grow to maturity.¹

¹ See Wilson, Gail W. T. and Hartnett, David C. "Interspecific Variation in Plant Responses to Mycorrhizal Colonization in Tallgrass Prairie." Pp. 1732, V. 85. American Journal of Botany, 1998.

Nature Relies on Diversity



The soil surface of the prairie is packed with literally hundreds of plant species, including composites, legumes, cool season grasses, and warm season grasses. This variety is not accidental. It evolved to facilitate pest-resistance, climate-flexibility, and functional diversification.

Conventional Enterprise

In business, cooperation may be lateral, vertical, or interorganizational. Such cooperation can reap tremendous rewards for all involved therein. Too often, however, conventional businesses measure customers and workers solely on the basis of net revenue, profit or share price. Customers and workers, in turn, perceive existing leadership structures as either meaningless or predatory. A similarly narrow vision on the part of executives interprets other companies only through the lens of competition or acquisition. Parallel blinders applied to the natural world perceive only a limitless supplier of raw materials. Thus, all stakeholders are restricted to a stovepipe structure that limits the contribution of each.

One critical type of diversity in business is diversity of opinion. In many businesses, those who deviate from the 'party line' are ignored or ostracized. Leaders often fall victim to cloning themselves in their selection of advisors, executive team members and heirs apparent. The result is a self-referential insularity that leaves the enterprise vulnerable to being blindsided by internal and external threats.

BioDynamic Enterprise

BDE sets up the conditions for the marketplace to reward inter-organizational cooperation and intra-organizational collaboration. Among organizations, BDE prompts each enterprise to articulate a broad vision, which functions as a platform for inter-organizational cooperation. Within an organization, each circle is double-linked up and down the hierarchical chain. BDE requires that company-wide policy be decided with representation and participation from across the organization. This structure thus maximizes opportunity for top-down, lateral, and bottom-up resource infusion within and beyond the organization.

Innovation and efficiency are the key comparative advantages of BDE. In BDE, diversity of opinion is the input that systematically prompts innovation.

AN EXAMPLE FROM NATURE: THE TALLGRASS PRAIRIE

The Tallgrass Prairie

Nature Demands Local Expertise



The native microecological population of fungi and insects that enable the prairie's closed-loop functionality and resilience has evolved over hundreds of millions of years. It is "an expression of the bedrock, organic matter, rainfall, temperature, light conditions, and... the plant and animal community above."² When this autochthonous balance is disturbed through plowing, spraying, and the introduction of new plants, such "on the ground" functionality is lost, and must be overcome through the introduction of energy intensive external (human) intervention.

² Benyus, 24.

Nature Curbs Excesses from Within



Farmers tilling wheat and corn fields adjacent to the tallgrass prairie must fend off pests, invasives, and energy exhaustion with the addition of pesticides, herbicides, and oil-based chemical fertilizers. The combination of energy efficiency, dense growth, and diversity among the native plants of the tallgrass prairie obviates the need for such external interventions, curbing the same threats from within the ecological system.

Conventional Enterprise

Policy-making is often the exclusive purview of executives, and thus may be ill-formed by and ill-equipped to efficiently address conditions on the ground, where work and data are generated.

Conventional businesses face a difficult choice regarding policy development at lower levels of the organization: micromanaging to mitigate risk or blindly trusting mid-level leadership to determine the limits of appropriate policy.

BioDynamic Enterprise

A BDE circle is comprised of those people directly tasked with the execution of that circle's production responsibilities. BDE delegates policy decisions to each circle as appropriate to that circle's activity, with the goal of getting policy decisions made as close to the ground as possible.

BDE's core processes of leading, doing, and measuring allow for creative experimentation at all levels of the organization, despite its associated risk. Frequent and consistent application of measurement data prevents such experimentation from straying beyond policy limits, and thereby harming the organization.