

## Five Lessons Business Can Learn from Nature

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[Adapted from an interview between BCI's Denise DeLuca and BBC's Alejandra Martins and published in Spanish on BBC-MUNDO 22Oct2012 under the title *Cinco cosas que las empresas pueden aprender de la naturaleza* ]

Business can learn endless lessons from Nature! Here are five to get you started.

### **Businesses can learn to work more like ecosystems**

The decade in which we are now living (2010-2020) has been dubbed the Decade of Fear, the Decade of Volatility, the Decade of Transparency, the Decade of Creative Destruction, and the Decade of Transformation. That is because we are now simultaneously facing local and global resource limitations (oil, water), rapidly emerging disruptive technologies (internet, mobile phones), climate change (drought, fires, floods), political upheavals (The Arab Spring), and economic instability – all of which are unpredictable, volatile and lead to radical transformational change.

We cannot deal with all these *radical* transformational changes by making numerous *incremental* changes to conventional approaches. It is just not enough—not near enough. To deal with the radical changes we are facing, and with the radical changes that we need to make in order to transition into an era of sustainability, we need nothing less than radical transformation. Unfortunately, most leaders do not get this and conventional top-down organizational structures simple do not allow it.

### **Top-down organizations**

Top-down organizations (hierarchies) work well when action has to be taken swiftly and decisively in response to rapidly changing and unpredictable conditions, where not all members have full or timely access to information, yet all need to act as a coordinated group. The three classic examples are the military, emergency response, and sports teams.

Top-down organizations control flows of information and resources and thus inhibit cross-pollination and slow responsiveness, particularly at the local level. They are unable to optimize or leverage the full diversity, richness, and uniqueness of each and every individual in the organization. Hierarchies tend stifle new ideas, creativity, and innovative thinking that could emerge from a diversity of individuals interacting within the organization.

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## **Ecological thinking**

We have all heard of systems thinking know that somehow we are supposed to be applying systems thinking to everything that we do. For most of us, however, ‘systems thinking’ seems far too complex and mathematical to be practical, especially since what we are really supposed to be thinking about are *dynamic* systems and *systems of systems*.

The conventional top-down approach is to pretend that our systems are limited, static or steady-state, and try to control all the flows information and resources. This actually used to be fairly effective, when communication technologies were limited, when things happened more slowly and predictably, and when many resources appeared to be abundant.

A typical example is the supply chain. An example supply chain might flow from the source of raw materials through manufacturing, transportation, sales, and finally to the consumer. (Actually, there are more links on the disposal end that we should be included but are usually ignored.) In a linear one-way supply chain, the only interaction the consumer has with the systems is chain is with the last link in the chain.

If you apply systems thinking, that supply chain would turn into a dynamic value-creating inter-connected network, where all participants are communicating and exchanging ideas and information freely. This system fosters the co-creativity, adaptability, resilience, and radically creative thinking that we need in an era of sustainability. We are beginning to see this in the form of open sourcing and where companies are appealing directly to consumers for new ideas and solutions.

So how do we get our heads around systems thinking? Help can be found in our own backyards. Nature is composed of systems – dynamic systems, and systems of systems, at every scale in time and space. That is what ecosystems are made of and how they work. If you observe and understand how and why ecosystems work in nature, then you can apply what you learn to your organizations to create sustainable, dynamic, resilient, adaptable systems. This is easier than you think because you, as an organism, and we, as a species, are part of nature. We have evolved to live as active participants in numerous complex dynamic networks of ecosystems in nature. Ecological thinking is hardwired into our DNA. We already get it and in many ways we already do it– we simply need to learn to apply what we know to our organizations.

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## **Businesses can learn to be co-creative**

Conventional business is based on competition where all players assume they are competing with everyone else in a win-lose game. Some organizations have learned that cooperating to achieve “win-win” situations can yield better results for all individuals involved. The next step beyond cooperation is collaboration, where individual resources are applied in combination to accomplish things that would be impossible for the individuals on their own. Beyond collaboration you have co-creation. Co-creation is when individuals share, explore, and play with ideas freely and in a supportive yet challenging environment, together driving towards positive outcomes that are greater than the success or glory of the individual, in order to create radically new ideas and thinking. Co-creativity is an emergent process. You know you have achieved co-creativity when no one in the group can remember or identify whose idea it was – and no one cares.

## **Businesses can learn to focus on positive outcomes**

Since childhood we are trained to find answers to our questions, to find solutions to our problems. As our questions become more challenging and our problems more complex, we focus more and more effort on investigation and analysis to better understand what we are working with, what is wrong, who is to blame. This approach can work well when your goal is simply to find an answer or solution. It does not work well when your goal is to come up with radical new ideas and creative innovations.

The human brain is unique in its capacity for applying higher-level abstract thinking to generate completely new creative ideas; however, it takes the brain far more energy to deal with the unknown than the known. In fact most humans become emotionally and physically uncomfortable when asked to deal with the unknown. Problems and questions are in the world of the known (or knowable), while new creative answers and solutions – especially radically creative ideas and solutions – are in the world of the unknown. For this reason, individuals and groups tend to avoid exploring as-yet-unimagined potential solutions, which are unknown and uncomfortable, and instead focus inordinate energy on the problem, which is knowable and comfortable. How many meetings have we been to where the goal is to come up with new ideas, but all the energy is spent discussing the constraints, what won't work, why things can't be done?

When a problem arises in nature, organisms don't focus on analyzing the problem (and couldn't if they wanted to). If there is a shortage of rain, a plant does not try to figure out how much water is left, how much water it needs, when it rained last, when it might rain again, or what might happen if it doesn't rain soon. Instead, it takes actions on numerous fronts to seek out more water, protect against water loss, reduce water

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consumption, and delay growth and reproduction. The plant continually strives for positive outcomes, regardless of the situation it is in.

Humans can learn from the natural world by spending less of our limited resources on analyzing our problems and more on exploring, envisioning, articulating and taking actions towards positive outcomes. Often we limit our vision to what we think we can accomplish rather than exploring what we really want, what really needs to be done, and what fantastically positive outcomes could be. We can avoid the discomfort of the unknown by creating a strong clear vision of what “really good” looks like to the point where it becomes the known. Fostering conditions for co-creativity and emergence within your organization can greatly facilitate the creation of a radically creative vision and the actions you can take to realize your positive outcomes.

### **Businesses can learn to encourage failure**

With the exception of humans, all of nature moves ahead through trial and error, by being exploratory, curious, cooperative, collaborative, and synergistic. That is how evolution progresses. To go with that, nature accepts an incredibly high failure rate; 99.9% of the species that have ever existed on earth are not around today. Mutations are constantly being generated and the vast majority of them fail.

Creativity and innovation requires looking at your design challenges in entirely new ways – and looking at nature in new ways can help. Simply going outside to discuss a challenge will stimulate creativity, as will bringing natural artifacts into your next meeting and exploring how nature addresses the challenges you are facing. Encouraging lots of ‘mutations’, knowing most will fail, and quickly killing off those not fit for purpose, can result in far more creative ideas – including the few very successful ones – that pre-constraining thinking to ideas that are more certain to succeed from the outset.

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## **Businesses can (re)learn how to love and learn from Nature**

Most of us – even those that consider ourselves nature lovers – do not spend enough time outside. Humans have evolved to live outside. It is only in the past 100 years or so since we have lived primarily indoors with on-demand heating and lighting and water, and cars to transport us from one indoor place to another. Our bodies and minds are both stimulated and calmed by spending time outdoors. It is only by being in nature that we can re-ignite our natural deep love for nature (our biophilia), remember that we are part of nature, and recognize that and how we can re-align ourselves with nature and once again take our place in the positive virtuous cycles of nature.

And nature is a willing teacher if we can become willing students. Going outside – into the “classroom” – is the first step. Once there we learn how to ask how nature deals with virtually any challenge we are facing. In courses we like to get participants outside and begin by (re) learning how to use all of our senses (including ones like sense of gravity and sense of direction) to become fully aware of our surroundings and our bodies in that place. We go through activities where we get to explore nature’s materials, processes, systems, and strategies for accomplishing myriad functions. Then we learn how to explore our own challenges more carefully so that we can identify specific functions we are trying to accomplish. At that point we ask how nature accomplishes these functions. Once we begin to discover nature’s strategies we try to emulate them in our own solution or design. Once we have a conceptual design, we can compare it to nature’s rules for sustainability. This process can be repeated over and over.

A great example is InterfaceFlor. They wanted to make their carpets more sustainable, so they went outside and asked “How does nature make a floor covering?” They observed leaves blowing around and re-settling on a forest floor, each time in a new configuration yet keeping the same general ‘look’. They saw new leaves falling, older leaves turning to soil, and young trees growing out of this leaf-enriched soil. From these simple observations, they envisioned carpet in tiles that could be lifted out and replaced in a different orientation and that were recyclable. This simple question eventually led to their top selling product.

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