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Leadership in International Management

Dear Reader,

I recently watched the 3-D movie about the life of the Monarch butterflies. They fly thousands of miles, from Canada to Mexico, every year, in a migration that takes about 6 generations to accomplish. They find the precise place to go, their feet smell where there are flowers to feed on every day during their flight. Their eyes see colors way beyond our human capacities, the small hairs on their body help in the orientation by perceiving temperatures and moistures. As if this were not enough, they go through an existential transformation, from caterpillar to butterfly, disintegrating totally inside the cocoon only to come out as a different animal. They have doing this for several million years.

It made me reconsider why it is said that humans are the most evolved creatures on earth. We would not be able to accomplish the migration of a single butterfly (without polluting, using multiple devices or even fighting our way across). Is there a message for us we need to hear?

Enjoy the reading!

Isabel Rimanoczy
Editor

LIM News

Nature as Teacher

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Nature as Teacher

By Isabel Rimanoczy

For long a time, we humans have successfully maintained the illusion that we are outside of, superior to, and not subject to, the rules of nature. We do so, however, at a huge cost, and payment is coming due, warns David Korten, author of the international best seller *When Corporations Rule the World*. He reflects on the words of Chief Oren Lyons, of the Onondaga Nation:

> "Our instructions [...] are to get along... with [nature's] laws, and support them and work with them. We were told a long time ago that if you do that, life is endless. It just continues on and on in great cycles of regeneration...If you want to tinker with that regeneration, if you want to interrupt it, that's

your choice, but the results that come back can be very severe because .... the laws are absolute."

In Nature, energy comes from the sun, food is local, and there is no waste. We humans thought we knew better, and found that energy can come from digging holes, pouring chemicals into the earth and oceans, or exploding the mountains; over the last three decades we created a new habit and now take for granted that we can buy peaches in winter and drink sparkling water from France, because food and goods are no longer limited to geography. It may be convenient and tasty, but imported foods generate more emissions than generally acknowledged because they require layers of packaging and, in the case of perishable food, refrigeration. We also created materials that don't ever decompose, like Styrofoam-- or polystyrene -- because no animal on the earth eats petroleum-based plastics of any type. That is why they are not biodegradable or break-downable. Two teenagers, Daniel Burd from Canada and Tseng I-Ching from Taiwan, recently discovered polystyrene-eating bacteria, which brings some hope although the option is not yet being implemented by industry. Which is a pity, since there are 25,000,000,000 coffee cups thrown away in the USA alone every year, enough to circle the Earth 436 times, not to mention other expanded plastic foam products like take-out food containers, according to the **Sierra Club**. And it's not just floating garbage – it actually means toxic chemicals are entering our food chain through seafood, soil or water contamination.

Architect and author Bill McDonough poses a challenge to our human ingenuity. He taxes us to design something that: actually creates oxygen while sequestering carbon; converts nitrogen into ammonia and distills water; stores energy from the sun and uses it as fuel; builds complex sugars; creates a microclimate; changes color and shape; and self replicates. Notably all this must be accomplished in a quiet, safe and efficient way, without disturbing but rather teaming with its environment. Does it sound impossible? McDonough notes that Nature has already provided the answer. It's called a plant.

It is time to go back and learn something from nature, suggests biologist scientist Janine Benyus. What would nature do to design lasting and regenerative materials?, she asks. Benyus developed a discipline called **Biomimicry** where scientists go out into nature to find inspiration, ideas and answers. How does a lizard solve adherence? How does a spider create resilient fiber, comparable to titanium, using sugar and water? How do the termites build lasting homes in the desert, and how do rivers filter fresh water? Chemist Michael Braungart, co author of ***Cradle to Cradle: Remaking the Way We make Things*** wonders: Why aren't we designing buildings like trees and cities like forests?

In the past, manufacturing practices were developed and practiced in secrecy, with companies keeping manufacturing processes under wraps, and ignoring the creation of sustainability criteria. But we are witnessing a rapid shift in public consciousness thanks to globalized access to information and social media, and a growing network of individuals concerned about our collective footprint, and caring enough to do something about it. In 2010, McDonough and Braungart founded the **Cradle to Cradle Products Innovation Institute**, a nonprofit organization that evaluates and certifies products as safe and sustainable, based on three principles: a) creating safe objects of long-term value, b) eliminating waste, and c) recognizing the interdependence of humans and nature as well as the right of each to co-exist.

This approach, first introduced in 1992, invited us all to think beyond the conventional industrial process, which assigns value to a product only up until its first use. They went even beyond the accepted "reuse, recycle, reduce" motto, and asked what if we actually created products that have a restorative impact on the world? If sustainable development was first defined in 1987 by the **Brundtland Commission** as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs", the events that happened over the past 25 years call for an update of this definition. The challenge is no longer about meeting the needs of the present, now we have to

reduce and reshape them, and we need to urgently start restoring what we are destroying, in any way possible.

Is there something that we could learn from 3.8 billion years of R&D?

After Benyus' book came out in 1997, corporations began to contact her, asking for ways to create more sustainable product lines. "Could you come over and tell us what nature does?" As Benyus and her team explored that question, they found a universe of efficient solutions, tested and implemented in front of our eyes in nature, such as butterflies that use light and not pigments to create color, which for our industrial purposes might translate into reducing 90% of the energy required of an LCD display and still be readable in full sunlight. Benyus and her partner Dayna Baumeister developed a set of biomimetic guidelines, called Life's Principles, that point at what works and can be replicated, and all stem from the concept of cooperation as the main driving force of evolution. This is an interesting departure from the concept of Darwinian competition as the foundation of progress. Yet the idea is not new. It is well known to indigenous people the world over, and to early scientists, like the Russian zoologist Peter Kropotkin, who in 1902 described in his book *Mutual Aid: A Factor in Evolution* how cooperation became more important than competition, especially under harsh conditions. Chamois adopt orphaned young, crabs spend hours trying to turn over a flipped comrade, and pelicans band in order to herd fish.

Leading thinkers envision a world where we redesign our objects, for example where boats would clean the water at the same time as traveling in it, or phones would enhance our hearing. What sounds like science fiction, may be not be so far at all from reality. What is clear is that we need to start reinventing how we produce the goods that the world needs to survive. And what better way than learning from the 3.8 billion years experience of Nature?

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