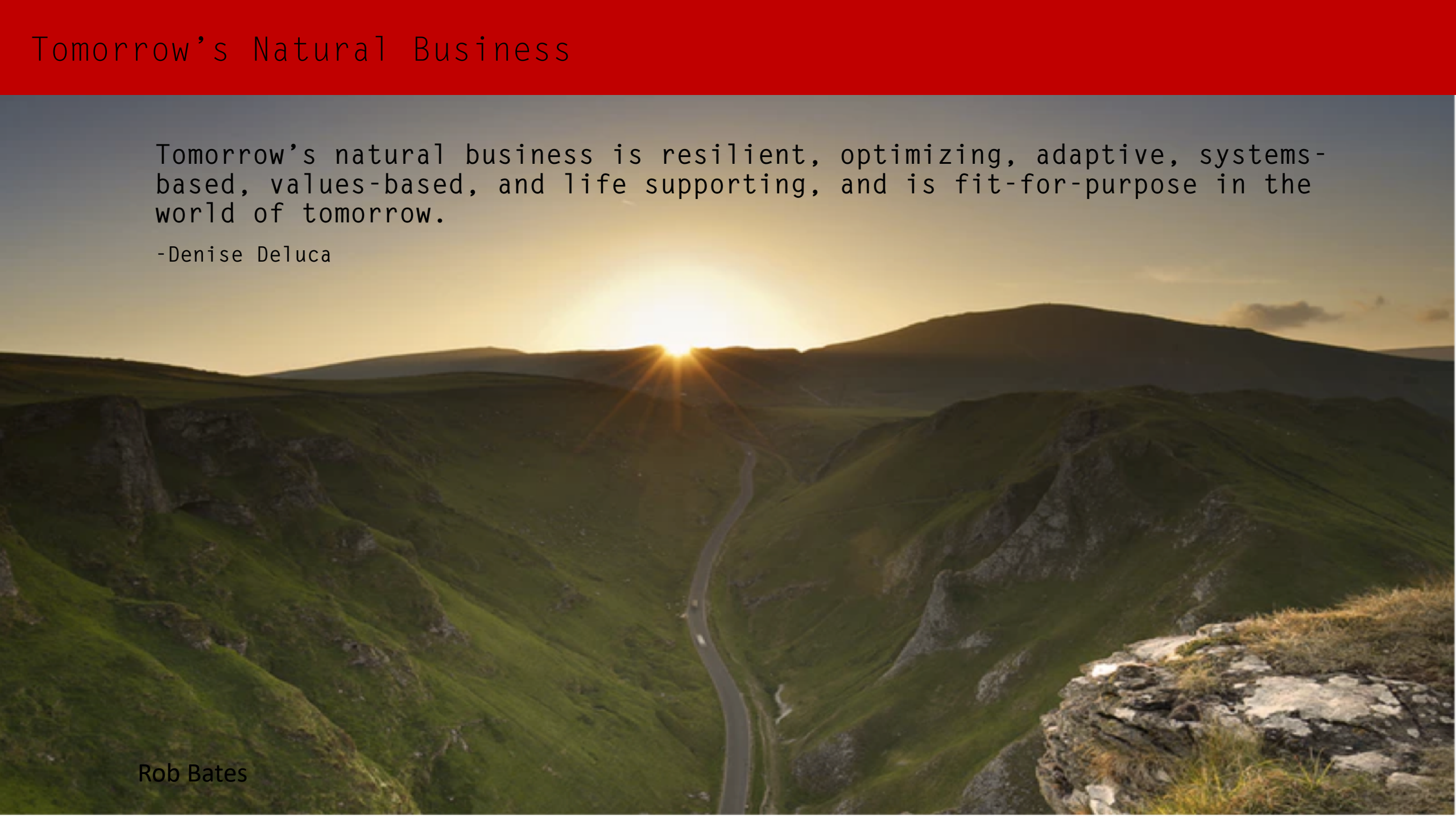


Tomorrow's Natural Business

Tomorrow's natural business is resilient, optimizing, adaptive, systems-based, values-based, and life supporting, and is fit-for-purpose in the world of tomorrow.

-Denise Deluca

Rob Bates

A landscape photograph showing a winding road through a valley. The sun is low on the horizon, creating a bright glow and lens flare. The hills are covered in green grass, and there are rocky outcrops in the foreground and middle ground.

Tomorrow's Natural Business

In reference to the future of sustainability, for current businesses and organizations, the question is no longer “why,” but “how” to adapt.

To begin, they must change growth patterns.

The traditional way is linear:

take → make → waste

It needs to be cyclical and balanced, like growth patterns in nature.



Tomorrow's Natural Business



Economic growth should not be linear, but phased and alternating, providing value for the whole system.

It should not be extractive or parasitic, but mutually beneficial.

Tomorrow's Natural Business



Form fits function:

An organization's design or structure should be based around its purpose first.

Tomorrow's Natural Business

A small patch of grass contains hundreds of one type of organism living in the same location with the same resource needs. Each blade of grass must be self-focused to survive, competing with its many neighbors for the limited resources available. Yet evolution has led to all these blades of grass living together more successfully as a system than as individuals spread out over the landscape, so each must also be **systems-focused**.

Every organism that lives in close association with many others—be it forests, swarms, or schools—has found success by being both system-focused and self-focused. This works so well because **whatever the organism does to benefit itself also benefits the system, and by working to benefit the system it also benefits itself.**



Tomorrow's Natural Business



Photo: Sean Fox



Photo: Neeta Madahar



Each seed needs ideal conditions in order to germinate and grow into a plant. To ensure continued growth of the species, plants produce many seeds, more than could ever grow. Different plants have developed unique ways of spreading seeds, but all method work within nature's system to travel and land with hopes of growing into a plant.

In this way, organizations must be ready to come up with innovative and reactive solutions, knowing that not all will be successful, but the process of trial and error, learning, and adapting will lead to the optimal solution.

Tomorrow's Natural Business

All organisms:

1. Sense, respond, and adapt to changing conditions
2. Live within the limits of Earth's systems
3. Support their ecosystems while supporting themselves



Tomorrow's Natural Business



Forests have parts that are in stages of rapid re-growth, while other parts are maturing, and other are fully mature and aging.

Every part cannot grow at once, competing for resources and fighting for space.

Organizations can follow this cyclical pattern: responding to the current situation, focusing on growing one area at a time while maintaining the health of other areas.

Tomorrow's Natural Business

Heterogamy, the ability to reproduce both sexually and asexually, is a way that some organisms **adapt** and **respond** to their situations.

For example, the freshwater crustacean *Daphnia* (right) reproduces asexually in the spring to rapidly populate ponds, and then switches to sexual reproduction as the intensity of competition and predation increases.



Tomorrow's Natural Business

The model of take and waste is no more.

There is no waste in nature, so organizations should see that as a goal to reach.

Even strong materials that are made by and abandoned by an animal create no waste: seashells are made with self assembly of calcium carbonate within a protein matrix, as they decompose they become sand



Leadership Skills for a Sustainable Economy



Photo: Allison Shelley

Business leaders are realizing that sustainability should be integrated into their companies. Even those that have started to change know that they need to do more.

A successful change to a sustainable economy relies on participation from individuals on all levels in all types of business.

Leadership Skills for a Sustainable Economy



There are many steps on the way to a sustainable economy.

An important one to start is being able to envision how a sustainable economy might look- we need to know where we're going and have clarity on direction

Also necessary: transformational training programs that are designed to fit the specific needs of the organization.

Communication between all levels is important to stay focused on the common goal, and each level has its own role to play.

The Business Logic of Sustainability

When Ray Anderson realized that his carpet company, Interface, needed to be focused on sustainability, they defined their mission as “eventually operating our petroleum-intensive company in such a way as to take from the earth only what can be renewed by the earth, naturally and rapidly- not another fresh drop of oil- and to do no harm to the biosphere.”



The Business Logic of Sustainability

Interface follows the motto: Take nothing, do no harm

Anderson believed that one day, those who plunder the earth would be put in jail.

As he put it, theft is a crime, therefore theft of our children's future is a crime.



The Business Logic of Sustainability


In the new industrial revolution...

Extractive  Must be replaced by Renewable, Cyclical

Fossil Fuel Energy  Renewable energy, solar power

Wasteful  Waste-free

Abusive  Benign

Labor Productivity  Resource productivity

The Business Logic of Sustainability

Paul and Anne Erlich's Environmental Impact Equation:

$$I = P \times A \times T$$

I= Environmental Impact

P= Population

A= Affluence

T= Technology

Interface altered this equation to be

$$I = \frac{P \times A}{T}$$

Having technology as the denominator decreases environmental impact

Taken a step further:

$$I = \frac{P \times a}{T \times H}$$

A capital "A" indicates that affluence is an end in itself, while a lowercase "a" implies it is a means to an end, that end being happiness.

H= Happiness (satisfying all basic human needs)



The Business Logic of Sustainability

Tomorrow's Child

by Glenn Thomas

Without a name; an unseen face
and knowing not your time nor place
Tomorrow's Child, though yet unborn,
I met you first last Tuesday morn.

A wise friend introduced us two,
and through his sobering point of view
I saw a day that you would see;
a day for you, but not for me

Knowing you has changed my thinking,
for I never had an inkling
That perhaps the things I do
might someday, somehow, threaten you

Tomorrow's Child, my daughter, son
I'm afraid I've just begun
To think of you and of your good,
Though always having known I should.

Begin I will to weigh the cost
of what I squander; what is lost
If ever I forget that you
will someday come to live here too.



Photo: OC Gonzalez

- Written after hearing Ray Anderson speak about his vision for the future of sustainability and business

The Journey from Egosystem to Ecosystem

The model for the future is collaboration:

Creating something together instead of competing against each other and keeping ideas to ourselves



The Journey from Egosystem to Ecosystem

Ego	Eco
“If there is a website monetizing content without our license, it will be of great concern to us.” -Jo Oliver, IFPI	“Use our stuff to build your stuff.” -BBC
Less connected	Hyper-connected
Walled-in	Interdependent
Self sufficient	
“not invented here”	Proudly Found Elsewhere (PFE)
Return on investment	Return on engagement
Closed	Open
Control	Trust
Fear	Confidence

The Journey from Egosystem to Ecosystem

In the past, power was about what you could control. In the future, power is about what you can unleash.

-Gerd Leonard

Those who can give up essential liberty to obtain a little temporary safety deserve neither liberty nor safety.

-Benjamin Franklin

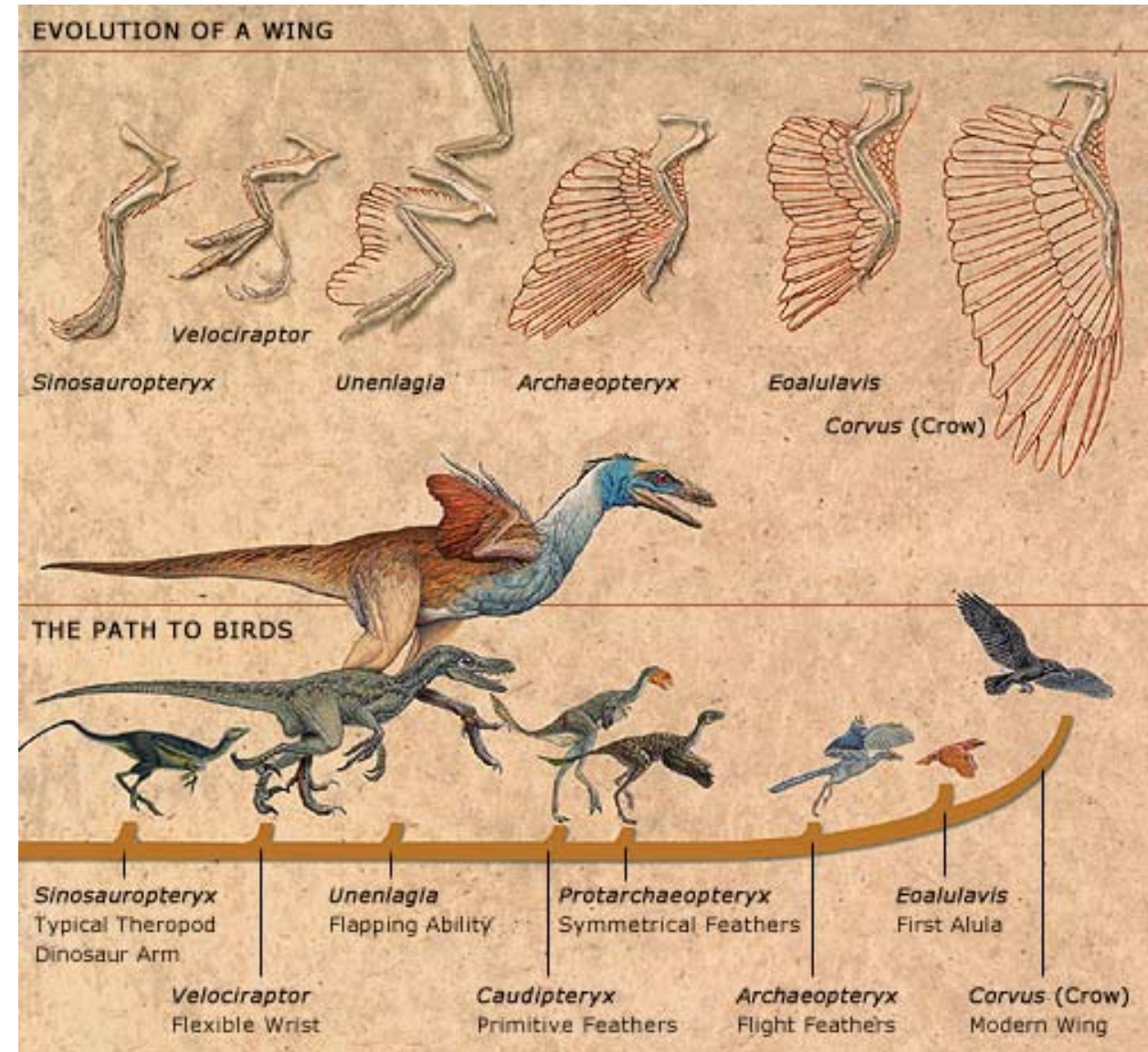
It is becoming less feasible to prosper alone, only making money for yourself. The ecosystem model follows the idea that we can't make money if others don't make money.



Natural Leadership

Leadership inspired by nature draws from over 3.8 billion years of experience.

Organisms have evolved as a response to change.



Natural Leadership

The Future of Business:

- Put people first
- Values at the core
- Adopt a transformative leadership style

Businesses and organizations operate in a dynamic framework of 5 components:

- Reality
- Reality Check
- Real Goals
- People
- Action



Natural Leadership

Reality: the environment, the conditions, and the parameters in and with which an organization operates

Reality includes technological development, socio-economic-political trends, resources availability, and nature: essentially, all things external to the organization.

Reality Check

In nature, organisms survive by constantly checking where they are and how they are doing relative to the constantly changing reality around them.

They constantly respond by moving toward positive outcomes. Conventional leadership has only one reality check: profit. Nature-inspired leadership measures what they value and are constantly checking how well they are performing in and aligning with the realities in which they operate by embedding feedback loops, allowing them to respond and adapt to change, rapidly recover from disruptions, and leverage new opportunities.



Natural Leadership

Real Goals

- What an organization chooses to be and chooses to do
- Based on striving to optimize abundance for the business ecosystem, the community, and natural ecosystems, as opposed to the traditional version where the main or only goal is to maximize profit



Photo: Ryan Lara

People

Natural leadership fosters and leverages:

- Diversity
 - Redundancy
 - Feedback loops
 - Free energy
-
- It fits form to function, self-organizes, and optimizes rather than maximizes
 - It creates conditions to optimize the unique capabilities of each person
 - Leaders are hosts, nurturers, facilitators, catalysts, and listeners

Natural Leadership

Actions: the realization of goals, including a business's processes and products, its interaction with and impact on the human and natural systems – the realities– within and with which it operates.

The actions of a nature-inspired leader are forward thinking.



Natural Leadership

Emulate natural leadership by:

- Using social networks to their full potential to connect with your ecosystem
- Creating space to think—for you and your colleagues
- Encouraging and participating in the right conversations in your business
- Challenging assumptions, considering new perspectives
- Setting value visions not goal visions
- Inspiring not managing



Photo: VLo Photo

Natural Leadership

Positive Deviants:

People who do the right thing for sustainability despite being surrounded by the wrong institutional structures, wrong processes, and stubbornly uncooperative people



Photo: drsaradennis.com

Natural Leadership



Photo: Milos Prelevic

Natural leaders need to help their foster their group's **Organizational Intelligence**.

Dr. Karl Albrecht defines this as “the capacity of an enterprise to mobilize all of its brainpower, and to focus that brain power on accomplishing its mission. By that definition, the role of OI is simple: to make the enterprise more successful in its environment”

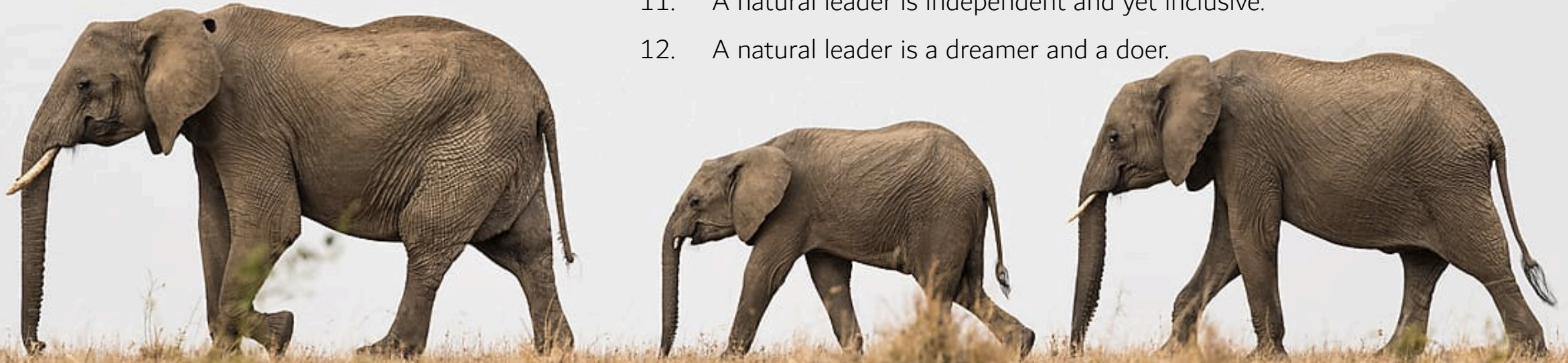
(http://www.aim.com.au/resources/article_kalbrecht.html)

Example: Ant colonies, flocks, herds, schools

What is a Natural Leader?

12 Characteristics of Natural Leaders

1. A natural leader doesn't necessarily intend to lead; others simply feel naturally compelled to follow. (Or put another way: A natural leader doesn't lead, he or she just is, and others just naturally follow.)
2. A natural leader is inspired and inspiring, and often inspiring others to, themselves, be inspiring.
3. A natural leader is the heart, rather than the head, of an organization, radiating both passion and love
4. A natural leader encourages rather than directs.
5. A natural leader enables rather than the controls.
6. A natural leader holds a deep and dynamic vision, rather than authority.
7. A natural leader empowers rather than rewards.
8. A natural leader is not a natural follower.
9. A natural leader is confident, but not egotistical.
10. A natural leader doesn't dwell on problems, but rather is driven towards positive outcomes.
11. A natural leader is independent and yet inclusive.
12. A natural leader is a dreamer and a doer.



Sources

Anderson, Ray. The Business Logic of Sustainability. TED, www.ted.com/talks/ray_anderson_on_the_business_logic_of_sustainability?language=en.

Cameron, Layne, et al. "Hyena's Cooperative Behavior Reveals Social Evolution." Research at Michigan State University, Michigan State University, research.msu.edu/hyenas-cooperative-behavior-reveals-social-evolution/.

ChannelHub. "The Gathering of Swarms (Nature Documentary) - Video Dailymotion." Dailymotion, Dailymotion, 20 Jan. 2015, www.dailymotion.com/video/x2f4rkf.

Degrees, 59. "The Rhizosphere: an Interaction between Plant Roots and Soil Biology." YouTube, YouTube, 7 June 2017, www.youtube.com/watch?v=tvA7CWSIbTc.

DeLuca, Denise. "12 Characteristics of a Natural Leader." MCAD Sustainable Design Blog, 13 Mar. 2014, mcadsustainabledesign.com/12_characters/.

Duke, Roul. "Clip from Swarm (Natures Invasions)." YouTube, YouTube, 24 Aug. 2009, www.youtube.com/watch?time_continue=3&v=clgHEhziUxU.

GPhase. "Bean Time-Lapse - 25 Days | Soil Cross Section." YouTube, YouTube, 7 Mar. 2018, www.youtube.com/watch?v=w77zPAAtVTuI.

Graeniac. "Bird 'V' Formation." YouTube, YouTube, 17 Aug. 2006, www.youtube.com/watch?v=2dOxUwVTtI0.

"Leadership Skills for a Sustainable Economy." Business in the Community, July 2010.

Lectures, Do. "Gerd Leonhard | The Journey From Egosystem To Ecosystem." YouTube, YouTube, 24 June 2012, www.youtube.com/watch?v=E1CNoDlbJ8c.

Manwaring, Tony, et al. Tomorrow's Natural Business. Biomimicry for Creative Innovation.

McFetridge, Nigel, and Polly Williamson. Natural Leadership. Biomimicry for Creative Innovation, Feb. 2011.

Rehm, Jeremy. "Dandelion Seeds Fly Using 'Impossible' Method Never before Seen in Nature." Nature News, Nature Publishing Group, 17 Oct. 2018, www.nature.com/articles/d41586-018-07084-8.

"Science's Unfolding Explanation of Life." The Age of Thrivability: Vital Perspectives and Practices for a Better World, by Michelle Holliday, Cambium, 2016.

Scientist, New. "Bees Do the Wave to Scare Away Predators." YouTube, YouTube, 10 Sept. 2008, www.youtube.com/watch?time_continue=1&v=Sp8tLPDMUyg.

secretover1. "Could You Build a Winning Team like This?" YouTube, YouTube, 26 Feb. 2011, www.youtube.com/watch?v=8tz1Igb6IeA.

Studios, BBC. "Epic Journey of Sardines - BBC Wildlife." YouTube, YouTube, 10 June 2008, www.youtube.com/watch?v=Ozkvqdw_r4A.