



Sustainability, Entrepreneurship & Transformation

How Should Entrepreneurs(hip) Adapt to
Cascading Climate Crises and Socio-
Ecological Transformations?

Guest Talk,
Social Entrepreneurship & Public Policy
UNU-MERIT. 16.03.20

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Navigating your Transformation to Sustainability
KvK no.: 71856072

This Talk

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[Navigating your Transformation to Sustainability](#)

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- Sustainability:
 - Challenges
 - Cascades of Climate & Socio-ecological Systems
 - Rethinking What Sustainability Means
 - DISCUSSION 1:
- Transformation:
 - Paradigm
 - Organisational Transformation
 - Transformative Leadership
 - Social & Emotional Intelligence
- Entrepreneurship
 - Intrapreneurship & Social Entrepreneurship
 - Systems Thinking
 - Solutions in Public Policy
 - Intrinsic competencies for transformation

My Background

- ◆ Environmental Science BSc, '09; Manchester, UK.

-> Mentored and volunteered in local Green groups whilst tending bars

e.g. Manchester Climate Monthly

Financial Crisis and Austerity made it very hard to find relevant work. I left UK in 2010 to France, then Italy.

- ◆ Sustainable Development MSc, '13; Uppsala, Sweden.

-> Looked into Nordic Mining Sector's Sustainability, Thesis + Internship

- ◆ '13: PhD project at ICIS and Green Office, Maastricht, Netherlands

-> 'Navigating Organisational Transformation for Sustainability in Universities'

- ◆ '18: Started 'Ozymandias Intelligence Solutions' – Sustainability Research and Advisory Startup

-> Collaborate with Social Enterprises and Startup community to understand and practice transformation for sustainability

-> Have worked with local clients like Gemeente Maastricht on zero-waste, and Mondiaal on SDG education and engagement with community.



Sustainability

Redefine it

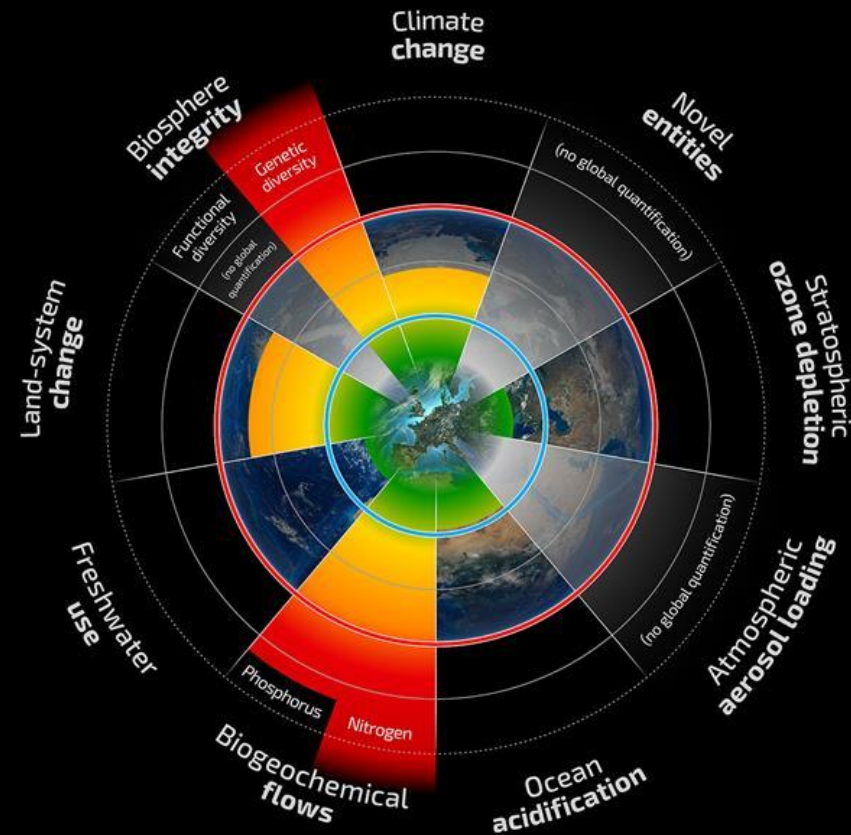
Rethink it

Reclaim it



Planetary Boundaries

A safe operating space for humanity



- Beyond zone of uncertainty (high risk)
- In zone of uncertainty (increasing risk)
- Below boundary (safe)
- Boundary not yet quantified

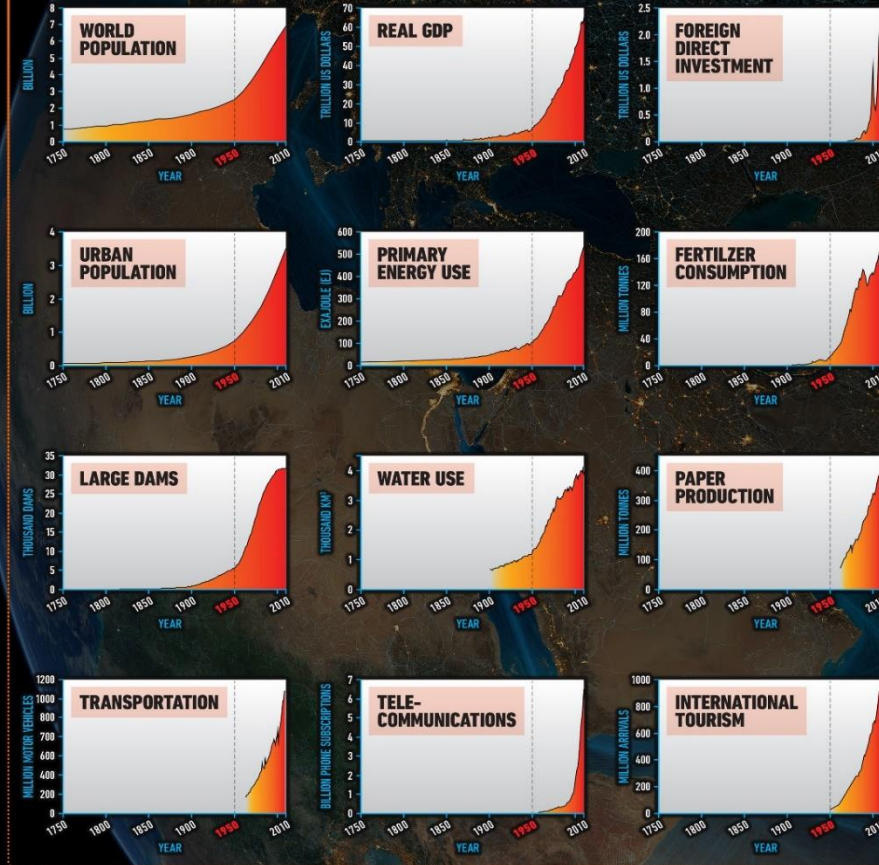
Source: Steffen et al. Planetary Boundaries: Guiding human development on a changing planet. *Science*, 16 January 2015.
Design: Globalia

We have infringed Planetary Boundaries

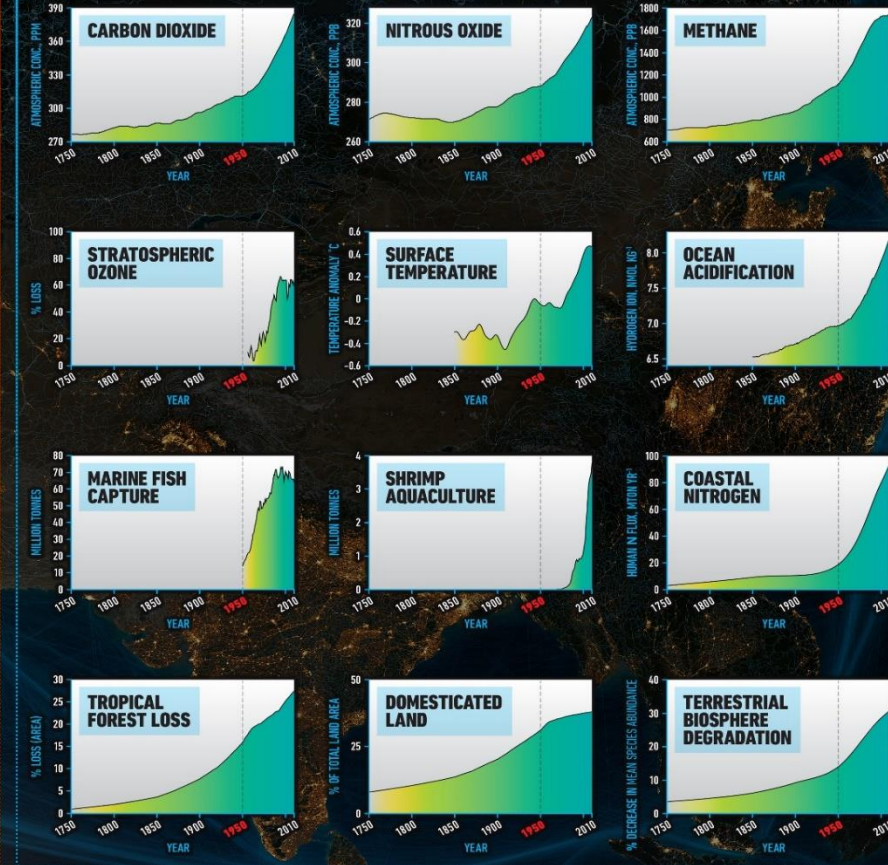
Steffen, W., Richardson, K., Rockström, J., Cornell, S. E., Fetzer, I., Bennett, E. M., ... & Folke, C. (2015). Planetary boundaries: Guiding human development on a changing planet. *Science*, 347(6223), 1259855.

THE GREAT ACCELERATION

SOCIO-ECONOMIC TRENDS

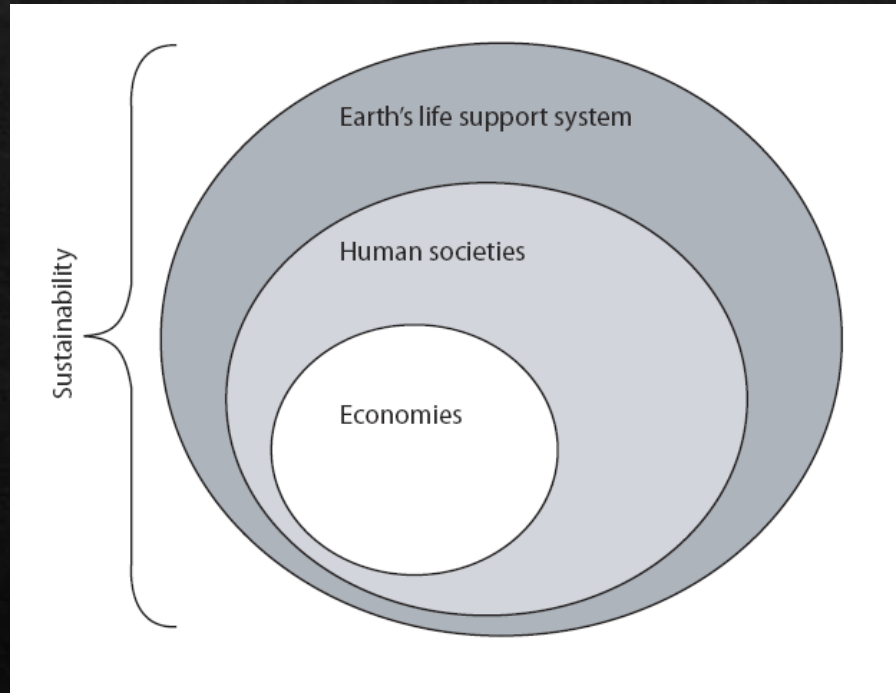


EARTH SYSTEM TRENDS



REFERENCE: Steffen, W., W. Broadgate, L. Deutsch, O. Gaffney and C. Ludwig (2015), The Trajectory of the Anthropocene: the Great Acceleration, Submitted to *The Anthropocene Review*.
 MAP & DESIGN: Félix Pharand-Deschênes / Globaia

We Treat the Environment like a
'wholly owned subsidiary of the
Economy',
Not the other way around.



[More on the Devastating Impact of Mining](#)

"The economy is a wholly-owned subsidiary of the environment, Not the reverse." Herman Daly

Redefining Sustainability

The European Commission defines Sustainable Development as:



- ◇ “Sustainable Development stands for meeting the needs of present generations without jeopardizing the ability of futures generations to meet their own needs – in other words, a **better quality of life for everyone, now and for generations to come.**
- ◇ It offers a vision of progress that integrates immediate and longer-term objectives, local and global action, and **regards social, economic and environmental issues as inseparable and interdependent components of human progress.**
- ◇ Sustainable development will not be brought about by policies only: it must be taken up by society at large as a principle guiding the many choices each citizen makes every day, as well as the big political and economic decisions that have to be taken. **This requires profound changes in thinking, in economic and social structures and in consumption and production patterns.”**

Cascades of Climate

Cascades of ecological and social systems

- ◇ *“New research warns that the earth may be approaching key tipping points, including the runaway loss of ice sheets, that could fundamentally disrupt the global climate system. A growing concern is a change in ocean circulation, which could alter climate patterns in a profound way.”*



[As Climate Change Worsens, A Cascade of Tipping Points Looms](#) [FRED PEARCE](#)

Cascades of Climate

Cascades of ecological and social systems

The nine active climate tipping points.

CREDIT: NATURE

RAISING THE ALARM

Evidence that tipping points are under way has mounted in the past decade. Domino effects have also been proposed.



A. Amazon rainforest
Frequent droughts

B. Arctic sea ice
Reduction in area

C. Atlantic circulation
In slowdown since 1950s

D. Boreal forest
Fires and pests changing

F. Coral reefs
Large-scale die-offs

G. Greenland ice sheet
Ice loss accelerating

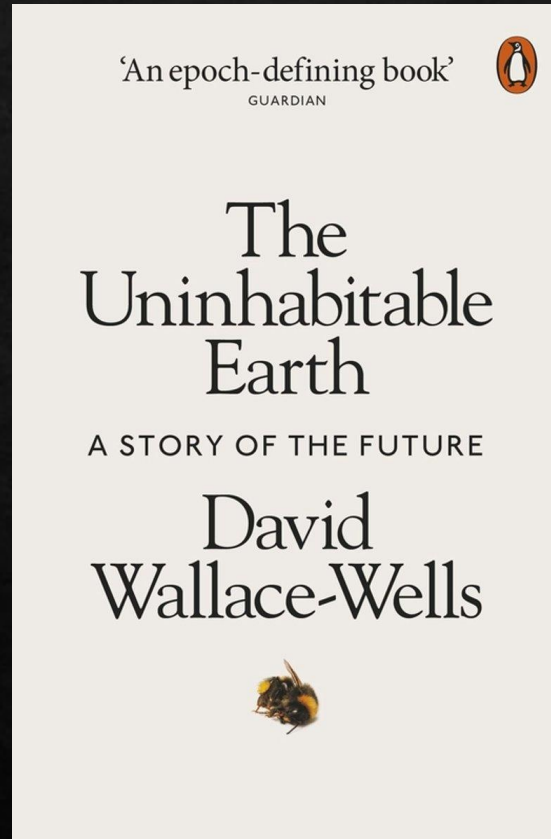
H. Permafrost
Thawing

I. West Antarctic ice sheet
Ice loss accelerating

J. Wilkes Basin, East Antarctica
Ice loss accelerating

Cascades of Climate

Cascades of ecological and social systems



SEE BOOK REVIEW: The End of the Story

The Uninhabitable Earth paints a picture of the world after climate change—and suggests the limits of the way we think about the human narrative. by [SUSAN MATTHEWS](#)

Sustainability is Dead

Long live Sustainability!



Sustainability, as a word in broad usage, divorced from its ecological roots, has lost its meaning.



Some say it is a 'dead' concept; they are not entirely wrong.



Regenerative design, rehabilitation of ecosystems and biomimicry are increasingly popular alternatives



Sustainability is Dead

Long live Sustainability!

- ◇ But, Sustainability properly defined, is not dead.
- ◇ It implies complete transformation of everything we know.
- ◇ Paradoxical no?
- ◇ What does sustaining anything have to do with transforming everything!

My View

Sustainability is concerned with the transformation of the consciousness of the human species, away from fragmentation, chaos, crisis and conspicuous consumption.

Towards living in symbiosis or syntony with itself and the living systems with whom we share this Planet.

This is the kind of sustainability I want to see;
Sustaining our balance and interdependence with and within the Earth System



Discussion 1

1. What are the most important Sustainability Problems for Policymakers?
2. Which ones would you address if you had the time, money and power? (i.e. if you founded a start-up)
3. What do you think are the biggest forces working against sustainability in our social, political and economic systems?
4. How do these forces affect our ability to innovate for sustainability?



Living through Transformation



The Real Bottom Line

We have to
Transform Organised
Human Life

The Imperative for Change, is Stark and Simply put:

Radical human transformation of the ecosphere
both necessitates and **threatens** an **equally**
radical transformation of organised human life

The Real Bottom Line

- ◆ We face a Great Transformation on many fronts.
- ◆ One way or another, the way we live is going to transform, completely.

Nothing less than a transformation of our **social**, **organisational** and **economic** systems is needed for humanity to attain a fundamentally more **resilient**, **interdependent** and **harmonious** way of being, amongst its diverse communities, as well as its **environment**

2020 -> 2XXX: The Great Transformation

- We must generate solutions through **active learning, experimentation and innovation**; it is necessary to go well beyond ideals
- Nothing less than a transformation of our **social, organisational and economic** systems is needed for humanity to attain a fundamentally more **resilient, interdependent and harmonious** way of being, amongst its diverse communities, as well as its **environment**

“It is hard to find words to capture the fact that humans are facing the most important question in their history – whether organised human life will survive in anything like the form we know – and are answering it by accelerating the race to disaster.” Noam Chomsky

Transformation

Digging up the Paradigm

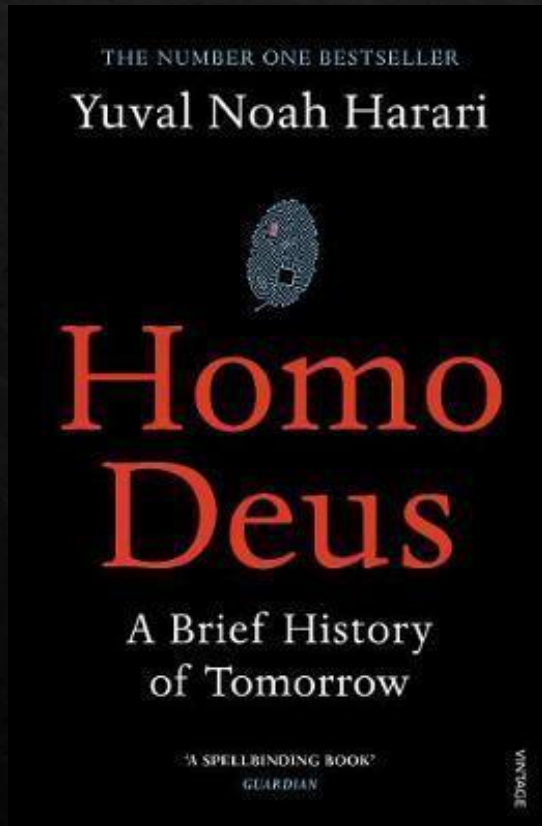
Paradigm

a prevailing worldview or collective belief system. The fundamental set of beliefs or organising principles which are unquestioned and unexamined assumptions about the nature of reality.

Porras and Silvers (1991)

- The essential building block of organisations and institutions are **people**, on an individual level. They maintain systemic resilience through “**function, self-organisation, learning and adaptation**” (Clifton, 2010).
- Individual behaviour affects an organisations’ shift in awareness, whilst **organisational culture** and **social norms** act as determinants of individual behaviour (Ajzen, 1991; Lo et al., 2012).
- Continuous Process of **Self-Diagnosis, Reflection, Anticipation and Planned Change**

The Paradigm of Humanism



What is the greatest achievement of our species?

What are we best at?

- Our intelligence?
- Our physical edifices?
- Our language?
- Our science and technology?

Put another way, what is the one thing that separates us from other species?

- Our Social Organisation!!!

Transforming Human Organisation

- ◆ Nothing less than a transformation of our **social**, **organisational** and **economic** systems is needed for humanity to attain a fundamentally more **resilient**, **interdependent** and **harmonious** way of being, amongst its diverse communities, as well as its **environment**.

Ways we can spur this along:

- **Active long-term learning**, not just in the classroom, but in your lives.
- **Experimentation**: Apply the scientific method to coming up with solutions to our biggest problems, and make sure you have room to create and fail
- **Innovation**: Challenge the status-quo with pragmatism and idealism, build on experiments, creativity and a shared collective vision

Organisational Transformation

- 1) A set of behavioural science theories, values, strategies, and techniques,
- 2) Aimed at the planned change of organisational vision and work settings,
- 3) With the intention of generating cognition change in individual organisational members, leading to behavioural change
- 4) Promotes **paradigmatic change** that helps the organisation better fit or create desirable future environments

(Porras and Silvers, 1991)

Organisational Transformation: Starts with **Being the Intrapreneur**

- ◆ A fundamental change in Mind-set
- ◆ Change in Worldview or Paradigm
- ◆ The Ability to see Things from Many Perspectives
- ◆ Dissatisfaction with the Status Quo
- ◆ Experiencing external social, environmental or economic shocks
- ◆ Internal Shift of Power, Generating or Co-designing a new shared vision

Intrapreneurship

Pinchot and Pellman (1999): *Intrapreneuring in action: A handbook for business innovation.*

- Intrapreneurs take responsibility and risk for developing an idea
- Ideally intrapreneurship initiatives are **nurtured** by an existing organization

Antoncic & Hisrich (2003): *Clarifying the intrapreneurship concept*

- Intrapreneurship refers to “**emergent behavioural intentions ... that are related to departures from the customary ways of doing business in existing organisations.**”
- “Entrepreneurship [with]in existing organisations.”

Social & Emotional Intelligence

Our social organisational system can be compared in its complexity to our brains.



This has a nice synergy to it, at scale.

It is immensely complex.



Our brains developed *as a result of* and *in order to* function these social organisations, this social intelligence.

Our increased pre-frontal cortex is evidence of this evolutionary transition.



- Yet: in the modern world, we almost completely overlook the areas of **social, intuitive, collective and emotional** intelligence in how we cocreate scientific, policy and technological know-how



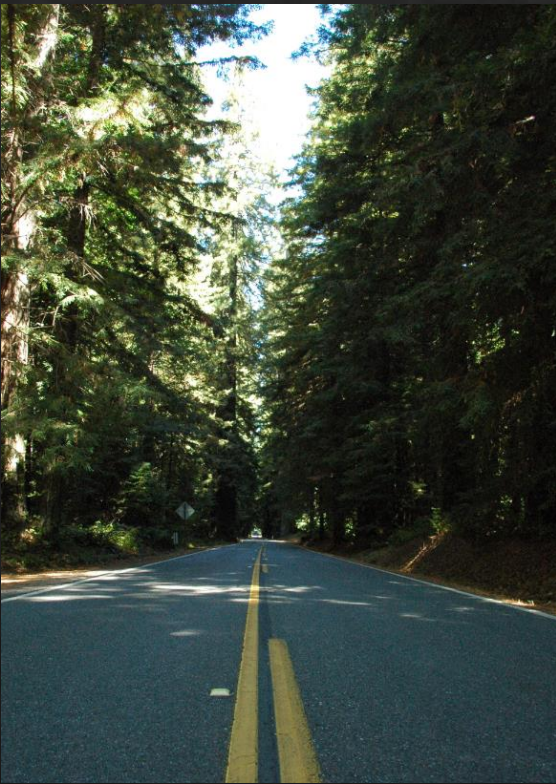
Social & Emotional Intelligence

How society views intelligence is like only being able to see one colour.

- Even our approach to inculcating creativity is leaning towards intellect and productivity.
- Our society tends to mostly value the material and the financial. Innovation is also framed as such.
- Financial, technological, digital innovation. Etc.
 - Where is the talk about artistic innovation, about psychological innovation?

These are genuine questions, I am seriously asking you :D

What does innovation mean? Help me out!



Transformative Leadership

COLLECTIVE INTELLIGENCE

SHARED VISION

“Building a **shared vision** is important early on because it fosters a **long-term orientation** & an imperative for **learning**...

Crafting a **larger story** is one of the oldest domains of leadership. . . leaders may start by pursuing their own vision, but as **they learn to listen carefully to others** they begin to see that their own personal vision **is part of something larger**. This does not diminish any leader’s sense of responsibility for the vision – if anything it **deepens** it.”



Peter Senge (1992) *The Fifth Discipline*, London,
Century Business

Break



Creating New Narratives

One Planet, One People, One Purpose

Discussion 2

What do you really care about?

What gets you out of bed in the morning?

What makes you angry about the world?

What is your place in it?

What do you see as your role and purpose?

What do you really want?

Transformative Impact Entrepreneurship



Given Cascading Climate & Socio-ecological Crises, what kind of entrepreneur does the world need in the 21st, and even 22nd century?



How does public policy, over the long term, support this redesigned role entrepreneurship working towards species and ecosystem sustainability?

Attributes of Entrepreneurial Leadership

Visionary

Good communicator & motivator

Strategic thinker & learner

Strong interpersonal skills

Relationship builder

Team player

Confidence builder

Builder of an open organization

Clarifier of ambiguity & uncertainty

Builder of empowering opportunities

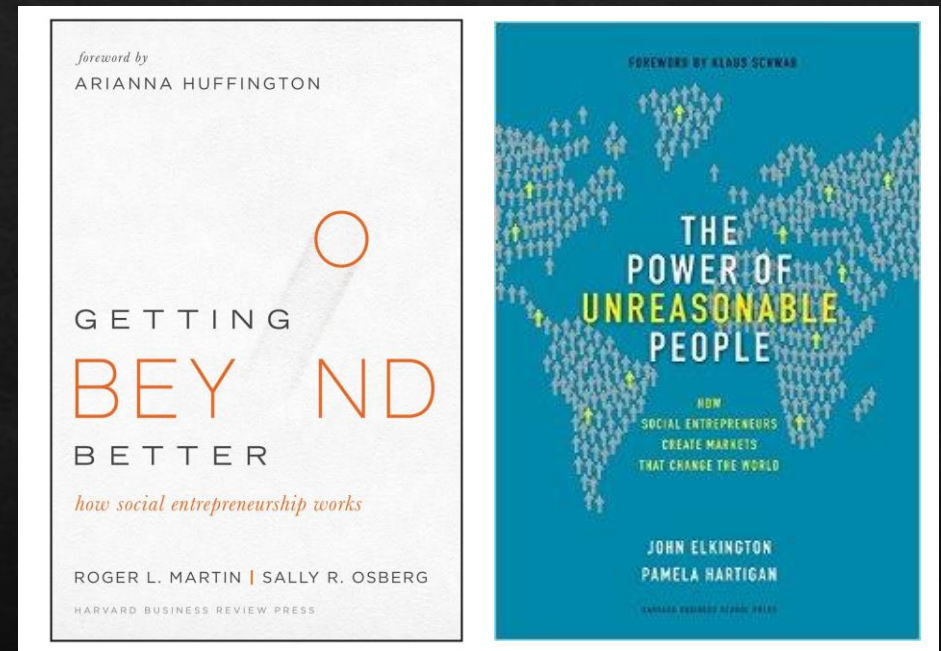
Entrepreneurial Environment

- ◈ Characterised by:
 - A high degree of environmental turbulence - change, chaos, complexity, uncertainty & even contradiction
 - High levels of competition
 - Fast-changing markets
 - Importance of information & knowledge (countermand mis/dis-information)
 - Importance of cognitive skills of creativity & innovation

Social Entrepreneurship

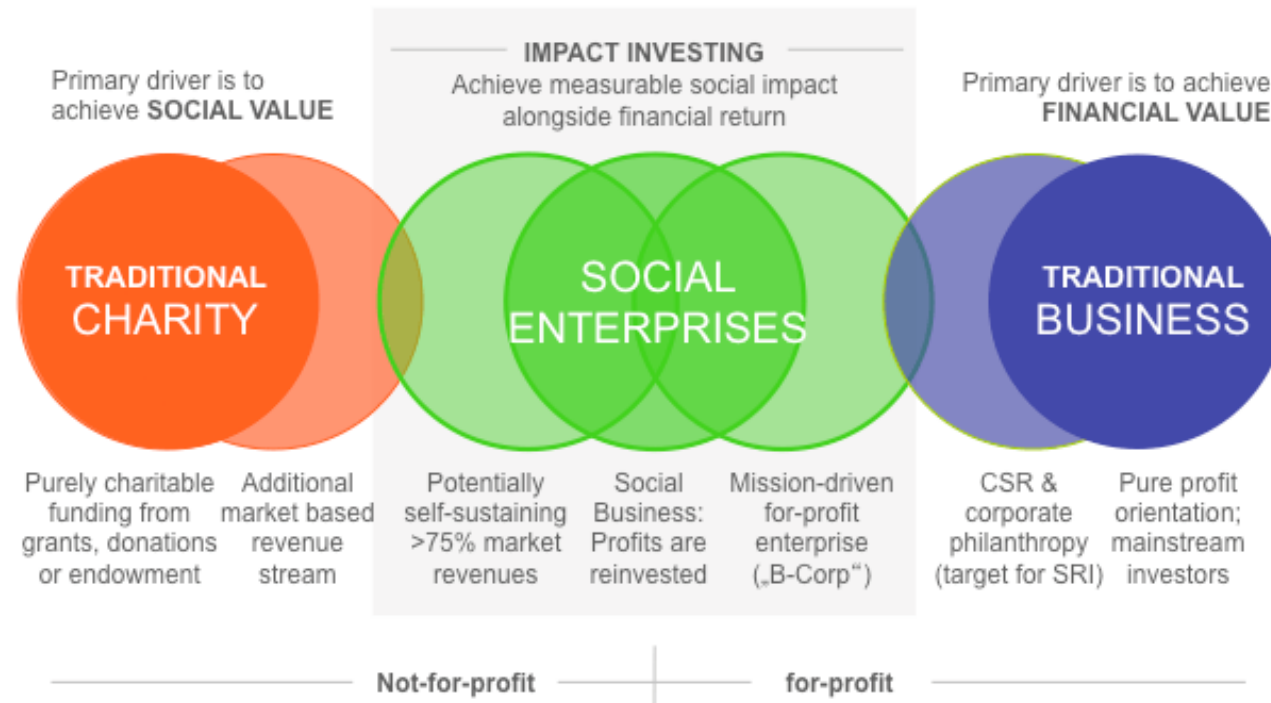
Social entrepreneurs seek to shift a stable but sub-optimal equilibrium in a way that is neither entirely mandated nor entirely market-driven. They create new approaches to old and pernicious problems. And they work directly to tip society to a new and better state.

(Martin & Osberg, 2015, *Getting Beyond Better: How Social entrepreneurship works*)



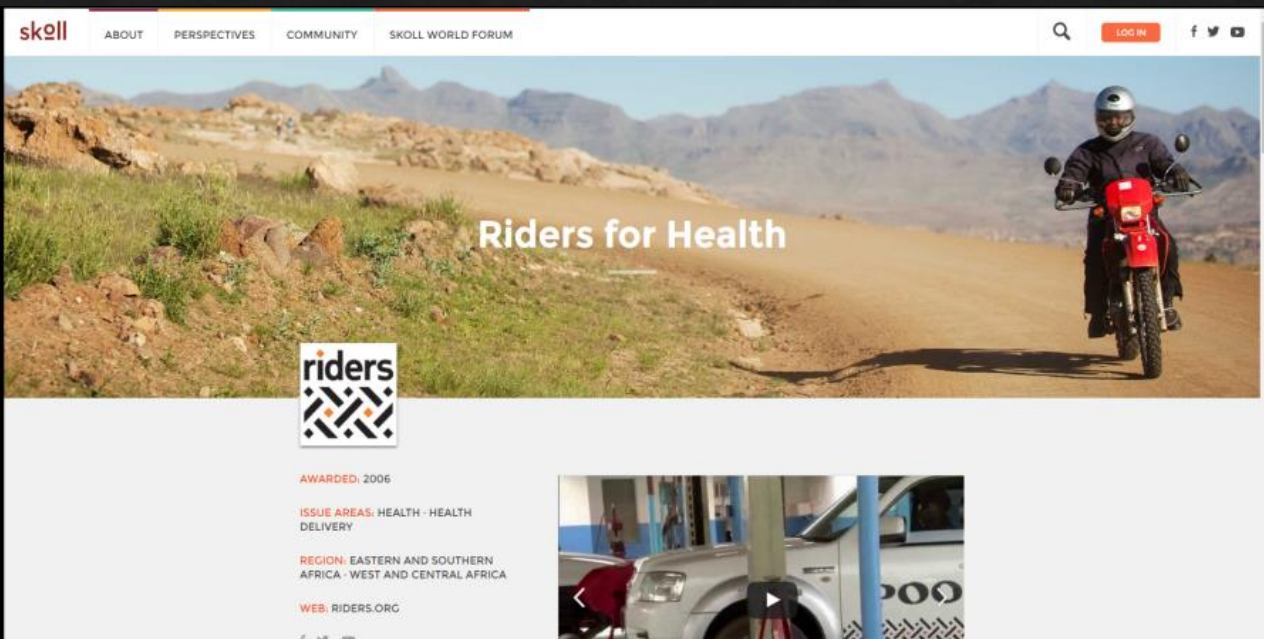
Social Entrepreneurship

The business model spectrum revisited



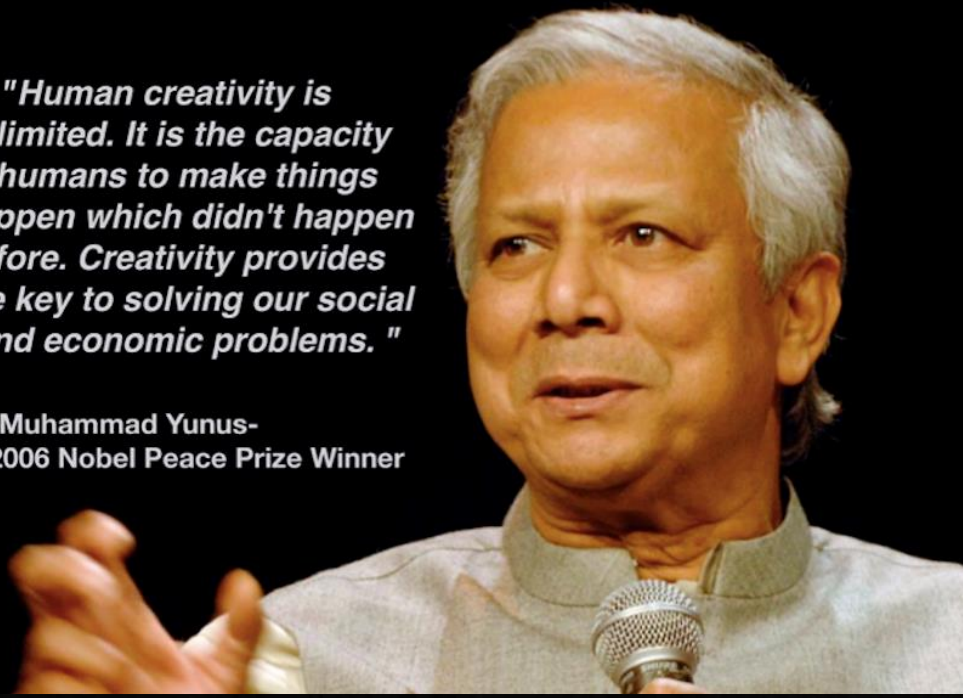
Source: Adapted from J. Kingston Venturesome, CAF Venturesome, and EVPA.

IMAGE SOURCE



"Human creativity is unlimited. It is the capacity of humans to make things happen which didn't happen before. Creativity provides the key to solving our social and economic problems. "

**-Muhammad Yunus-
2006 Nobel Peace Prize Winner**



Social Entrepreneurs

Audacity, Perseverance, Self-Awareness, Creativity

No one type of organisation, public, private or non-profit can **deliver solutions to sustainability problems** quickly or effectively.

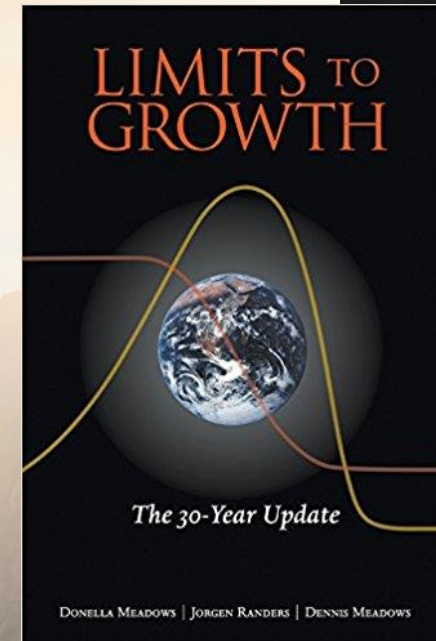
Social enterprise as a pioneering 'hybrid' type, is neither entirely publically mandated, nor market-driven.

→ They do what social norms and consensus dictates cannot be done.

The Systems View

The world is a complex, interconnected, finite, ecological-social-psychological-economic system. We treat it as if it were not, as if it were divisible, separable, simple, and infinite. Our persistent, intractable global problems arise directly from this mismatch.

Donella Meadows



Donella Meadows;
1941-2001



Applying Systems Thinking

- ◇ What happens when we start to see the world as fundamentally interconnected?
- ◇ Are there systemic practices that are ethically wrong, or pragmatically ineffective?
- ◇ Do you consider the market and government to be equipped to remedy these?
- ◇ How can entrepreneurs contribute?



The Systems View

Our organisational environment, is fundamentally a living system;

Living systems are defined by three principles:

The core of how entrepreneurs create **successful** and **impactful** businesses to innovate solutions to climate change and other systemic problems is to treat organisations as organisms, designing, leading and navigating them according to these three principles.

- ◆ -self-renewal,
- ◆ -self-maintenance
- ◆ -self-transcendence
- ◆ Organisations are Living Systems too!

Focus on long-term psychological development of our species, to heal and regenerate damage to ourselves and ecosystems upon which we depend

The Systems View

This means we have to do some intrinsic work on ourselves, holistically:

Shift from seeing the world **as objects**, to seeing the world as:

→ Inter-subjective

→ Interconnected: self-organisation

→ Interdependent

- ◆ Link the capacity of **self-transcendence** in living organisational systems to the principle of **creativity** in ourselves.
- ◆ Enhance competencies of **navigation** through periods of organisational **development and transformation**.

Systems View of Entrepreneurship

- ◇ Link the capacity of **self-transcendence** in living organisational systems to the **principle of creativity**
- ◇ Then you can define **innovation** as **entrepreneurial navigation** through periods of organisational **development and transformation**.
- ◇ This helps us explain: how entrepreneurs create and/or discover new opportunities for start-up, as well as building successful 'internal start-up teams' and 'intrapreneurs'.

Systems Entrepreneurship & Developmental Psychology

In this sense, we can view Entrepreneurship and innovation as a:
co-evolution of individuals and their environments.

Appreciation of the holistic, interdependent reality of organisations



in line with psychology:

“In any community of beings living in close contact with each other, the behaviour of individuals can be understood only in the context of their relationship to the group as a whole.”

Gabor Maté, Physician, Developmental Psychologist, Author

Problematique

What's holding systemic change back?

- ◇ Incentive Structures
- ◇ Misallocated Resources
- ◇ Young Professionals lack Support
- ◇ Dearth of Transformative Research
- ◇ Redesigning Extractive Industries into Circular ones



Wasteland with Lion, 2015, Nick Brandt ©

Incentivising Transformation from the Bottom-up

Structures do not seem equipped to help us work full-time on developing transformative and intelligent sustainability solutions – I speak from experience.

Resources do not seem to be streamlined to where they are most needed - Where the sustainability solution most needs to be applied e.g. Lesbos, Sahel, Polynesia – generally anywhere on the frontline of the climate cascade.

Not enough transformative research that unpicks the complex systemic problems - Without necessary institutional (university) support or research funding.

Incentivising Transformation from the Bottom-up

With the Young Sustainability and Climate Action Professionals I work with, their constant challenge, universally, is a lack of time and resources.

They do not even have the time to sit down to apply for complex grants and funding procedures alongside their 2nd or 3rd jobs and their studies.

What is the best public policy solution to remediate this?

How do we enable younger generations to do something about the deteriorating systems they learn about in school?

Steps Forward

- ◆ Getting bio-based, truly circular materials into production and consumption through redesign
- ◆ Redesigning food industry systems to eradicate non-biodegradable plastic waste and food waste entirely – uncoupling the interests of ‘Big Plastic’ from future economic ecosystems.
- ◆ Train, mentor and develop the capacity of young entrepreneurial leaders to sustain their transformative impact – this is where universities have to step up!

European Green Deal

“Designing a set of deeply transformative policies”

A European Green Deal

Striving to be the first climate-neutral continent

Climate change and environmental degradation are an existential threat to Europe and the world. To overcome these challenges, Europe needs a new growth strategy that transforms the Union into a modern, resource-efficient and competitive economy where

- there are no net emissions of greenhouse gases by 2050
- economic growth is decoupled from resource use
- no person and no place is left behind

[The European Green Deal](#) is our roadmap for **making the EU's economy sustainable. This will happen** by turning climate and environmental challenges into opportunities across all policy areas and making the transition just and inclusive for all.

European Green Deal

Circular Economy

Transformative Policy Action?

Actions

The new Circular Economy Action presents measures to:

- Make sustainable products the norm in the EU;
- Empower consumers and public buyers;
- Focus on the sectors that use most resources and where the potential for circularity is high such as: electronics and ICT; batteries and vehicles; packaging; plastics; textiles; construction and buildings; food; water and nutrients;
- Ensure less waste;
- Make circularity work for people, regions and cities,
- Lead global efforts on circular economy.

EU Circular Economy Action Plan

A new Circular Economy Action Plan for a Cleaner and More Competitive Europe

The European Commission has adopted a new [Circular Economy Action Plan](#) - one of the main blocks of the [European Green Deal](#), Europe's new agenda for sustainable growth.

The new Action Plan announces initiatives along the entire life cycle of products, targeting for example their design, promoting circular economy processes, fostering sustainable consumption, and aiming to ensure that the resources used are kept in the EU economy for as long as possible.

It introduces legislative and non-legislative measures targeting areas where action at the EU level brings real added value.



Entrepreneurship & Innovation for Sustainability

- ◆ Remedying areas of social and economic life where both the **market** and **government** have failed
 - ◆ Finding the 'pain points' in constituents
- ◆ Seeking to understand the complexities of a problem situation before seeking to change it
 - ◆ **Understand** and **investigate** the system thoroughly over time, whilst abhorring it
 - ◆ Finding the **niche**
 - ◆ **Co-generating** the Solutions with Stakeholders
 - ◆ Truly **understand** how they see the world

Examples of Organisations Navigating Transformation

FOR THE P

Open-Innovators.org is a sustainability
the Sustainable Development Goals,
Source Technologies for

Open-Innovators.org adapts its goals and recipients to the
Sustainable Development Goals.



HOW WE WORK



1. Application & Feasibility

You submit your application. Our local engagement managers meet you for storyboarding and feasibility discussion.



2. Validation & Prototyping

We create working prototypes based on our rapid-deployment model and free frameworks.



3. Funding & Development

We support you with building your case with investors and funding agencies. Our agile development model will keep you involved at all stages.



4. Deployment & Support

Our local engagement managers will be involved in deployments. We keep supporting you 24/7.

Subsidising E-Commerce and Digital Marketing for Sustainability Start-ups



Open Innovators

- ◇ Testing 1st example of circularity in digital economy
- ◇ Only work with organisations who are substantively committed to the 2030 Agenda (SDG's, Paris Agreement 2015).
- ◇ You have to apply and are vetted for entry into services
- ◇ A (rare?) example of how the private sector is ready to contribute to sustainability transformation in a bold way.
- ◇ Open-source
- ◇ Gaining attention

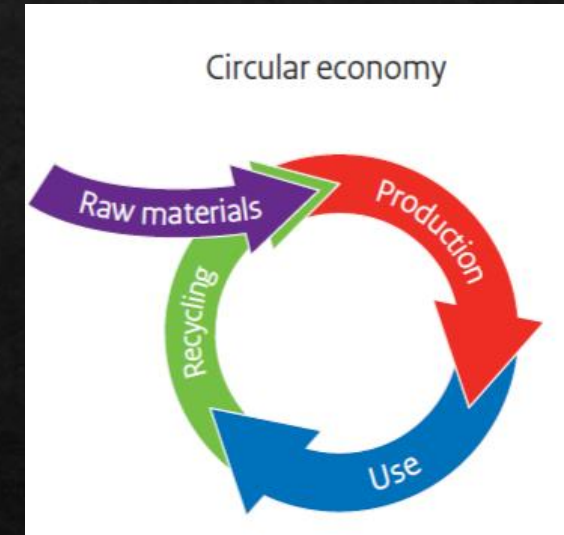


Image Source: Dutch Gov't
Circular Economy Strategy



Developing Intrinsic Competencies of Systemic Change in Public Policy

- ◆ How can we as individuals and groups navigate transformation for sustainability? (whether inside another organisation, or in our own)
- ◆ What structures, agency and processes are best suited for organisations to tackle global complex challenges of the 21st century?



Intrinsic Competencies of Systemic Change

- ◊ Iterative Design
- ◊ Action Research
- ◊ Validating assumptions
- ◊ Self-reflexivity & Self-awareness
- ◊ Empathy; of oneself and others
- ◊ Emotional & Social intelligence
- ◊ Developing a Learning Mind-set
- ◊ Thinking in systems
- ◊ Thinking Laterally (outside the box)
- ◊ Action Learning (journaling work and life, then reflect)
- ◊ Knowing when to listen
- ◊ Knowing when to share intelligence; Be cunning but kind.
- ◊ Knowing that there are many forms of intelligence! (e.g. emotional, social as well as intellectual)

Thanks for your Attention



Wasteland with
Lion, 2015, Nick
Brandt ©
Full online gallery:
[*Inherit the Dust*](#)

◇ We will inherit the dust of our elders if our leaders do not act