# Bio–what?: Life's Principles as a guideline for a learning society

"Learning about the natural world is one thing. Learning from the natural world—that's the switch. That's the profound switch."

Janine Benyus

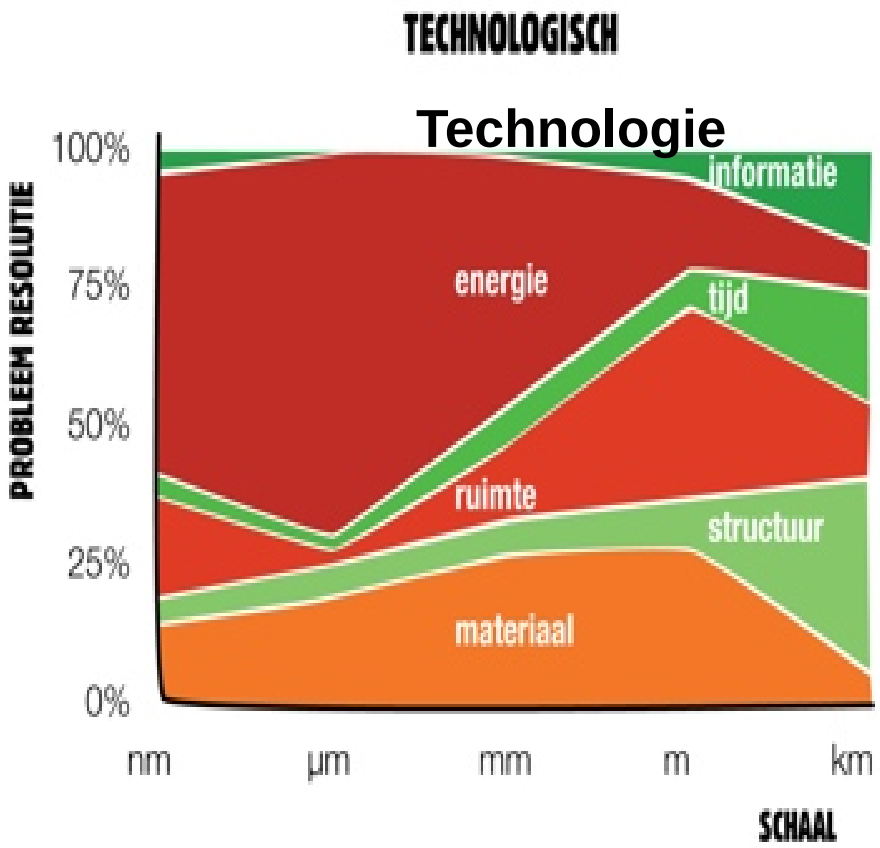
imagine we
asked…

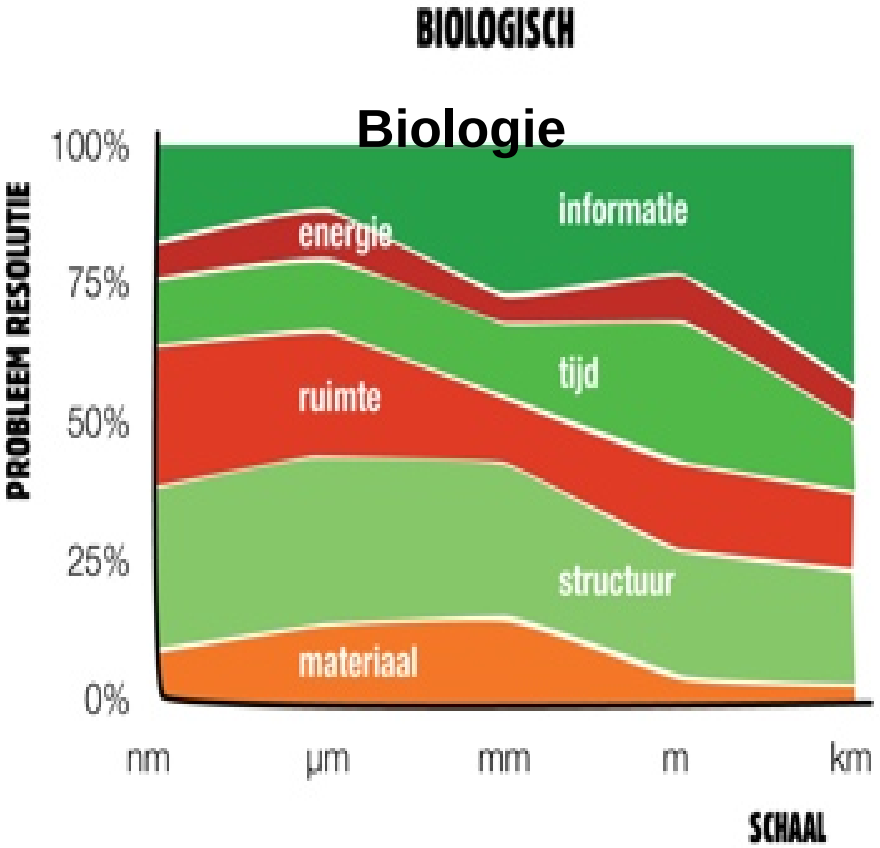
How has life not just *survived* but **thrived** on this planet we call home?

## Bio-inspiration & Biomimicry

- Using knowledge of biological forms, processes and (eco-)systems to come to innovative (sustainable) solutions.

Transitie naar een volhoudbare Samenleving



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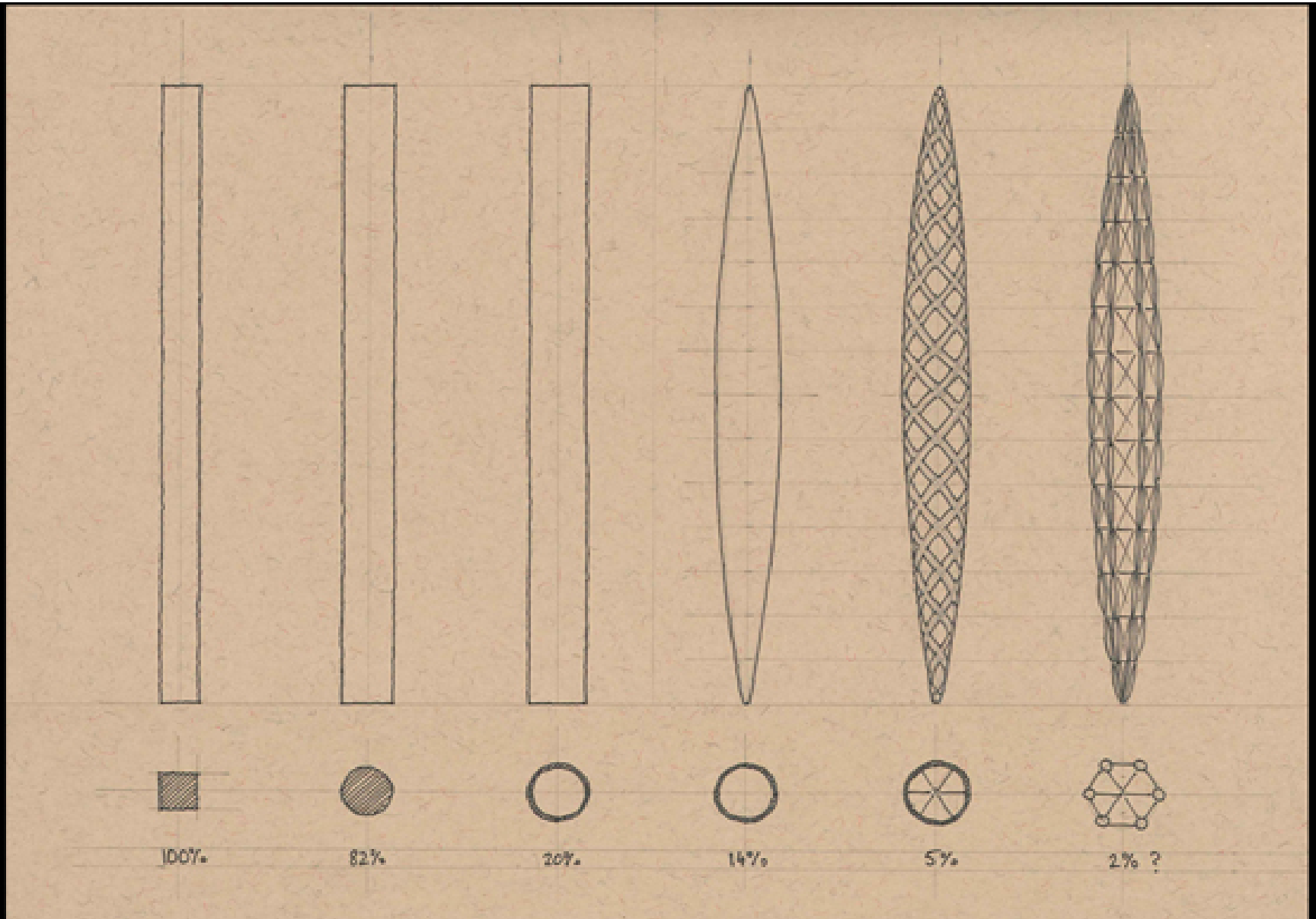
# DE BELOFTE: van 100 naar 2 %?



C H N O

Ca Cl Mg P K Na S

Co Cu Fe Mn Zn

Al As B Br Cr F Ga I Mo Se Si V

Focus on Abundance: what is abundantly available

Elements found in organisms


More than 5 and structure and information

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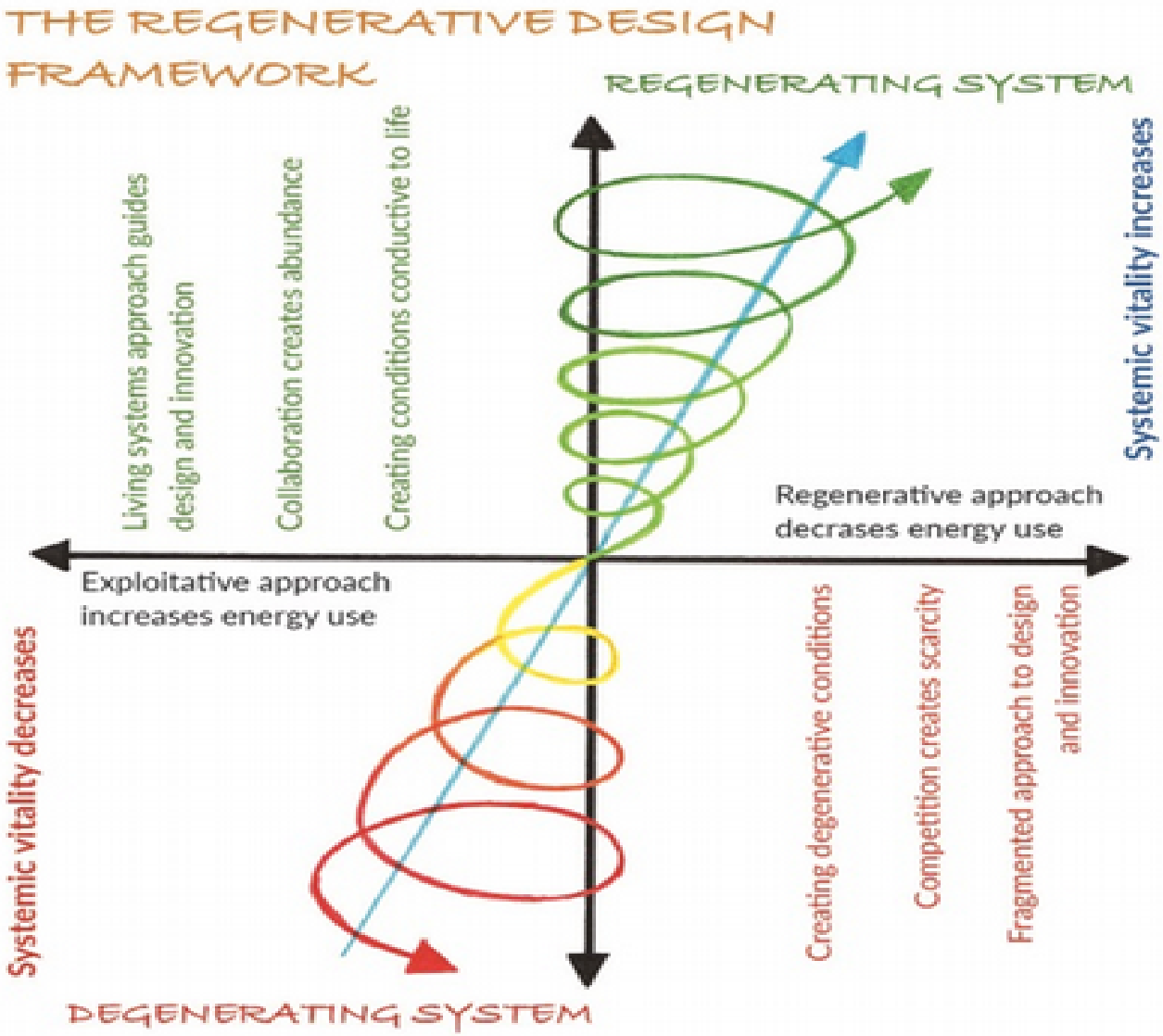
# Van niet schadelijk zijn naar bijdragen aan herstel.




**Regenerative**
Appropriate participation and design as nature.

**Reconciliatory**
Reintegrating humans as integral parts of nature.

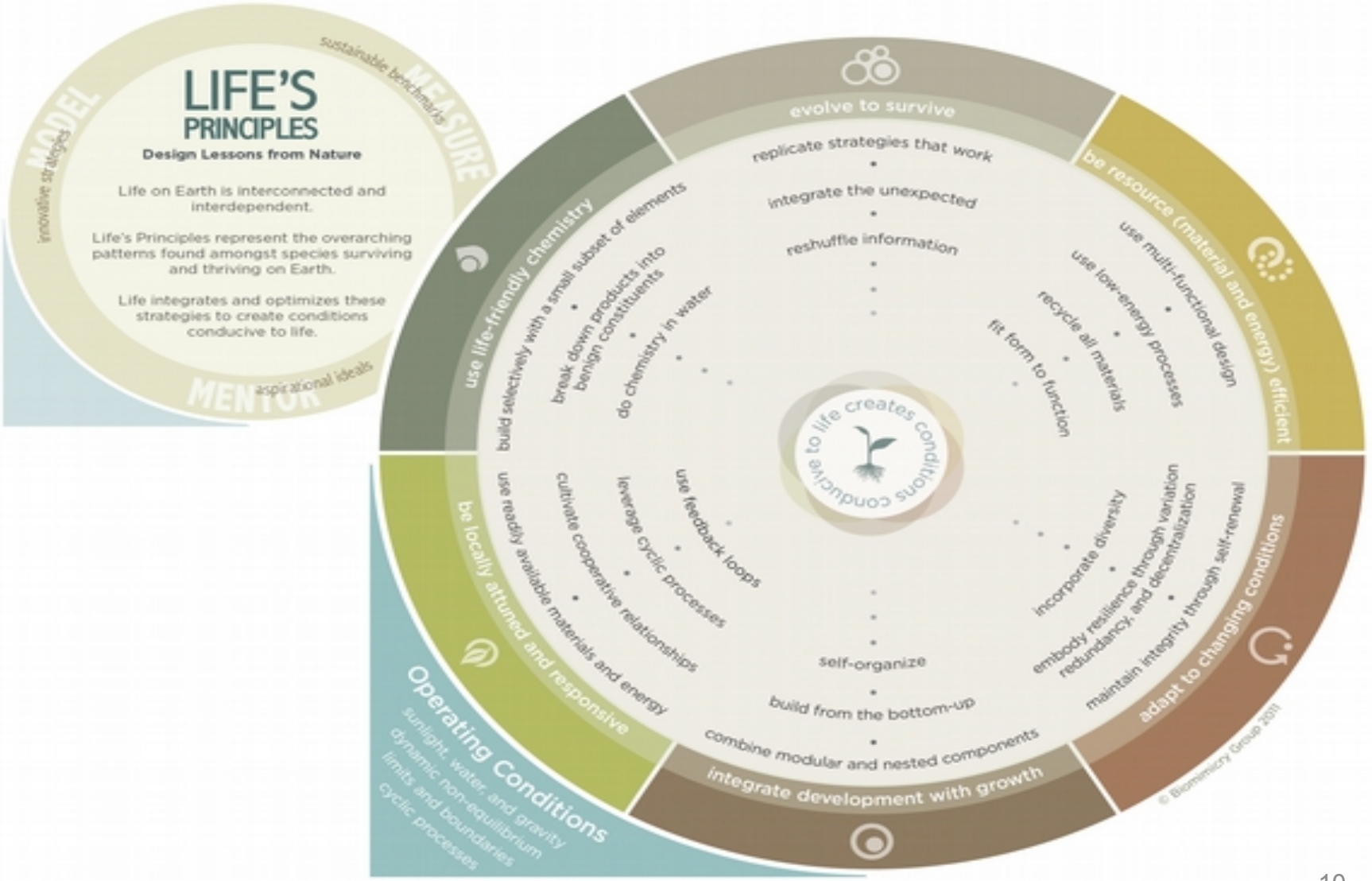
**Restorative**
Humans doing things to nature.

**Sustainable**
Neutral point of not doing any more damage.

**Green**
Relative improvements.

**Conventional practice**
Compliance to avoid legal actions.

# 3 dimensies 6 levensprincipes 20 strategieen



# Optimal routing – infrastructure planning

- Slime-mold
- https://www.youtube.com/watch?v=GwKuFREOgmo
- Swarm-intelligence
- Ant-algorhitms
- Japan-check the routing of the railways
- South-eastern-100% baggage retrieval

# Leren van een Cactus: form follows function

- Hoe blijven cacteeen overeind in stormen?
- Turgor
- Lignine strengen
- Celwand en membraam versterking
- Vorm creert overdruk aan de lijzijde?

# Bio-Polymers asfaltloze wegen?

- Alpen den UV filter degradatie bitumen verminderen
- Auto's die wegen voeden?

# Co2 absorbing bricks

- Coral: how does it grow?

- Absorb CO2
- Chemistry in water
- Low energy requirement
- Biological process
- https://vimeo.com/140679998

# Bestuderen & emuleren van biologie? Meervoudige waarde!

Mussels possess the unique ability to attach to wet, solid surfaces such as rocks, fish, and boats and are able to withstand strong wind and even waves.

Industry:

- Plywood without off-gassing
- use proteins/or macro molecules that inhibit growth to shape objects.

Medicine

- mussel-inspired adhesives made of soy to aid in surgery

Analysis-Sensing

- Early-warning Pollution-Systems
- Bio-health indicators

Eco System Services

- Land-reclamation,
- Coastal defense and
- Bio-diversity - Zandmotor

Food

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# Het is niet moeilijk, het is anders leren en leren kijken

- https://biomimicry.org/student-inventor-proposes-tree-inspired-solar-array/