Eberswalde University for Sustainable Development

Centre for Econics and Ecosystem Management

Conceptualizing transformation and change

Module: Strategies for change and transformation

Study program
Global Change Management (M.Sc.) – 2nd Term

Luzmila Rosales Richard
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Outline

I. Transformation

- Definitions
- Examples

II. Leverage points

- Conceptualization: Exercise in small groups
- Iceber model

VISUAL UTOPIAS

BERLIN: SKALITZER

https://visualutopias.com/berlin-kreuzberg/

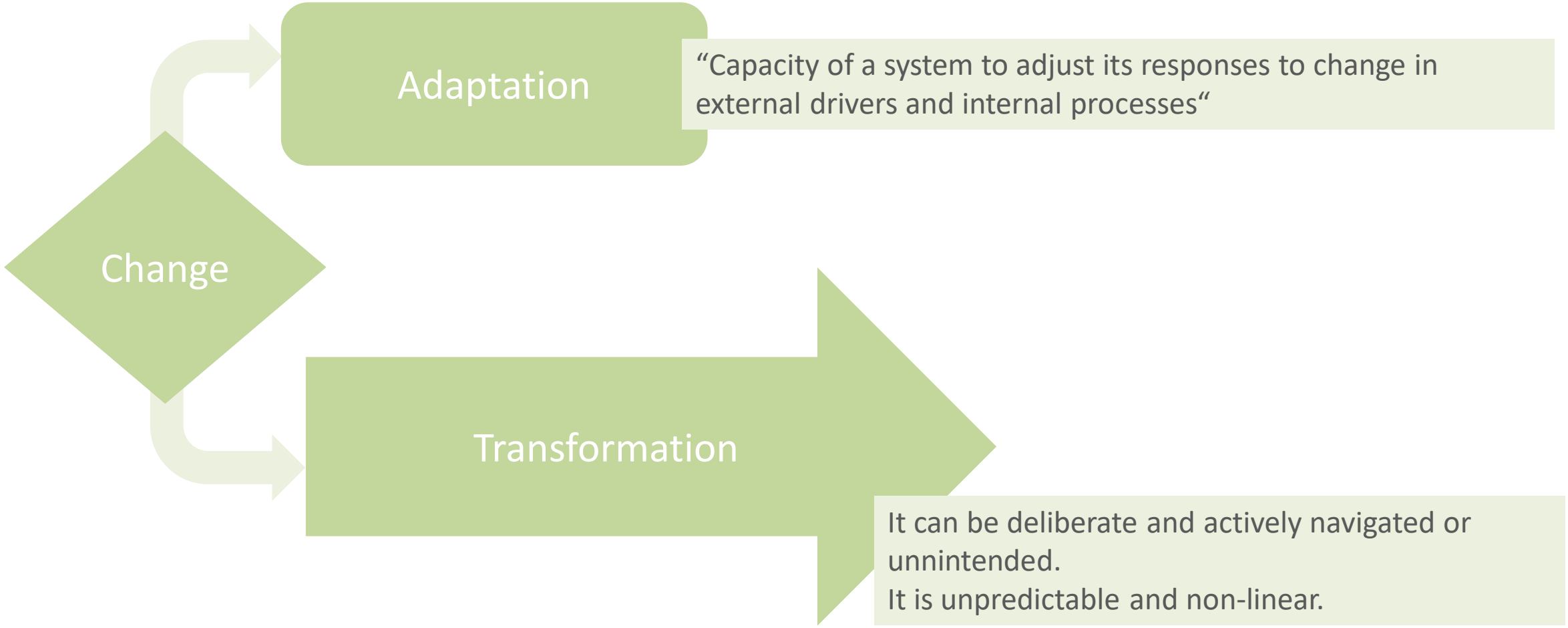
I. Transformation

1. Individually and for 3 min. think about:

What is transformation?

2. Share your answer with a partner and listen carefully.

3. In 5 min. create a single answer building on each other's thoughts, and synthesizing.



Moore et al 2014

Intentional SES transformation:

"… can be **triggered by a deliberate change** in the key elements of either the social or ecological parts of the system across more than one scale,
this change has **impacts** on the current dominant **social-ecological feedbacks**, and this leads to **further changes in the structure** of both the social and ecological parts of the system"

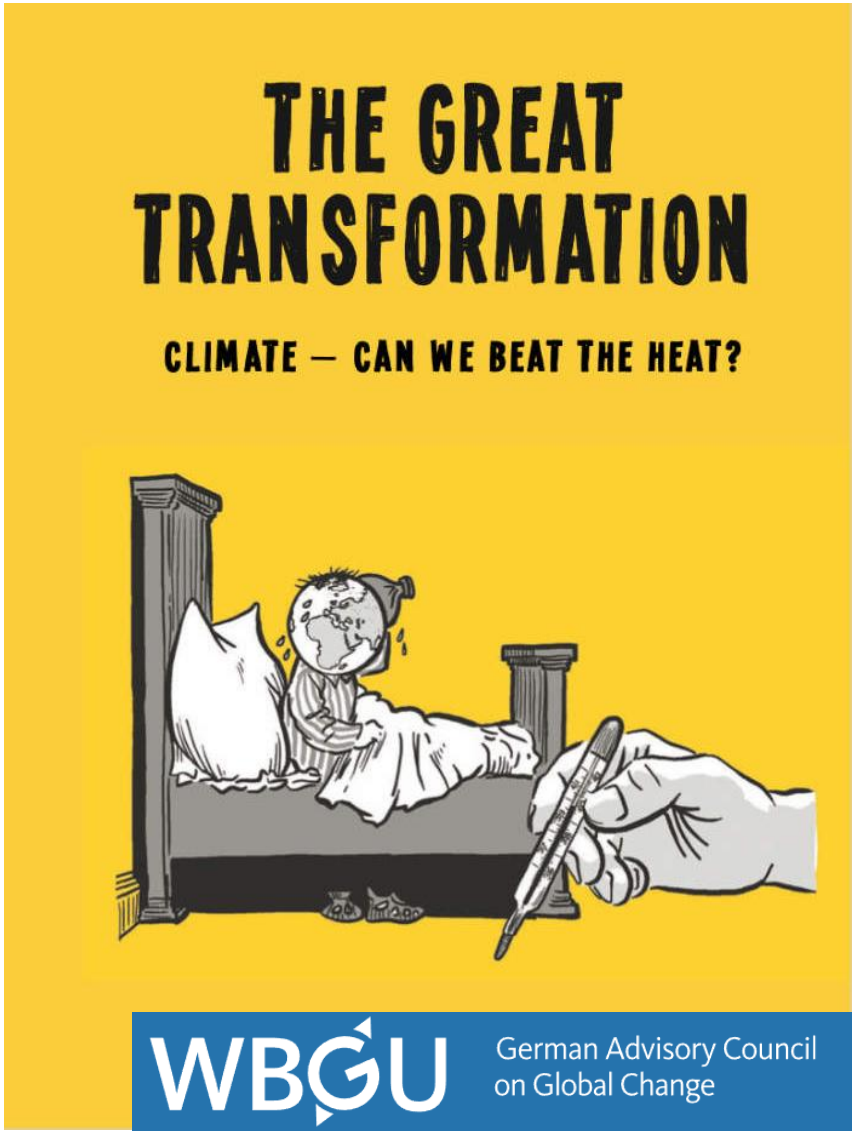
Moore et al 2014

Which global transformations have we experienced?

What effects did they have?

It explains (using a comic) the passage to the industrial capitalism during the nineteenth century, its socioecological impacts.

It advocates for a new “global social contract”.



https://www.wbgu.de/en/publications/publication/the-great-transformation

"Transformation involves **fundamental change**, which in the context of sustainability, requires radical, **systemic shifts** in values and beliefs, patterns of social behavior, and multilevel governance and management regimes".

(Olsson *et al.* 2004)

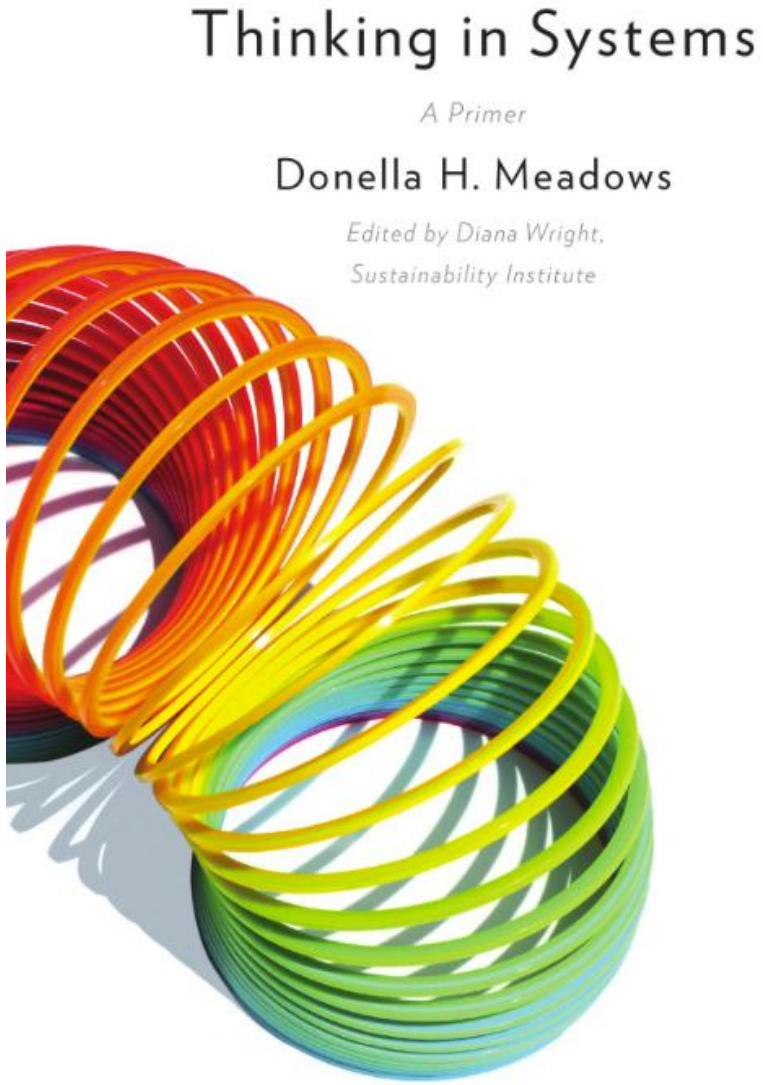
Any questions?...

Question by KonKapp from NounProject.com

II. Leverage points

"Places to intervine in a complex system where a small shift in one thing can produced changes in everything"

"They are an invitation to think more broadly about the many ways there might be to get systems to change"

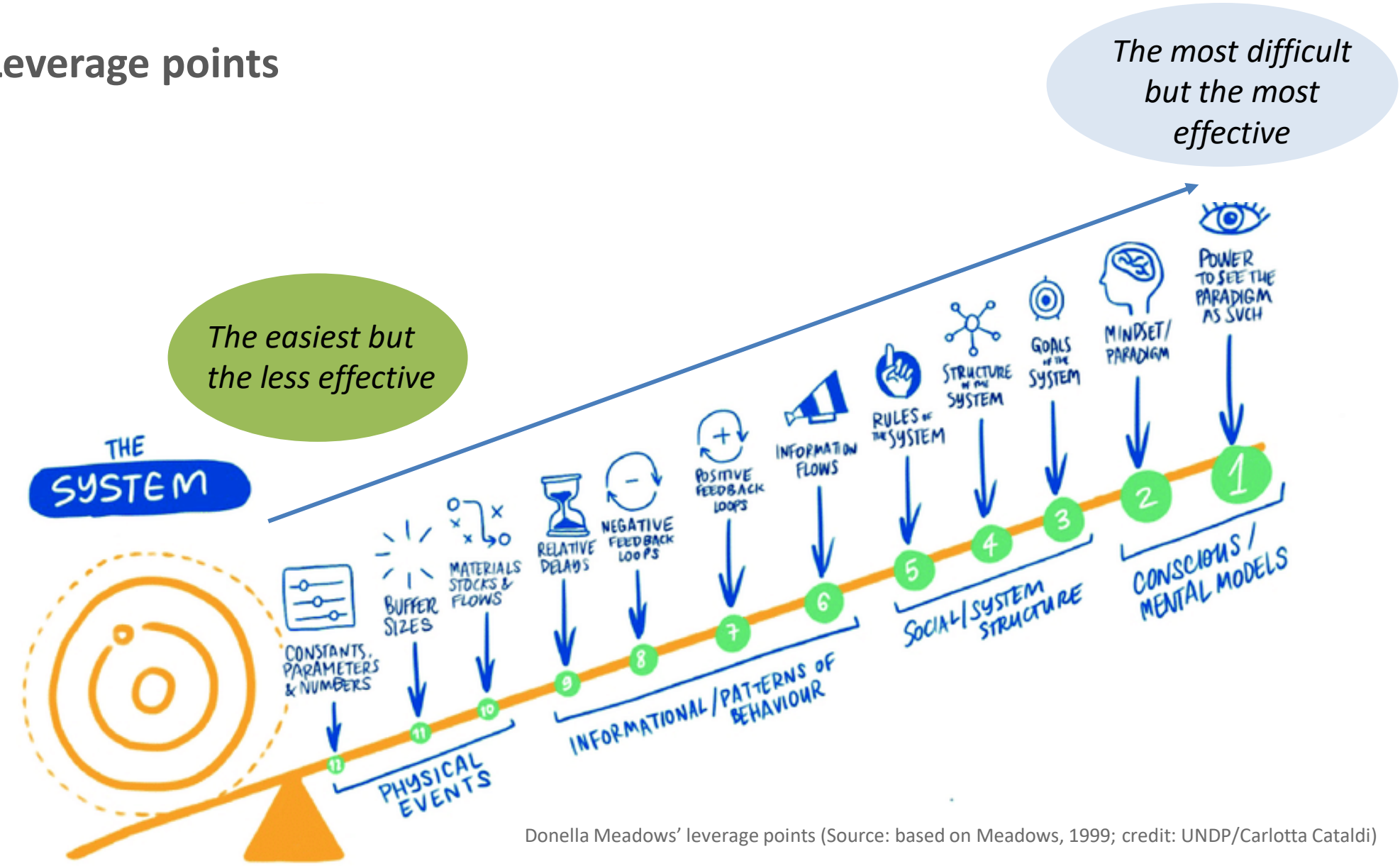


Donella Meadows (1941–2001)
USA

Scientist, communicator, teacher, farmer, sustainability leader and one the world's foremost systems analysts.

https://www.balatongroup.org/fellowship/

12 Leverage points

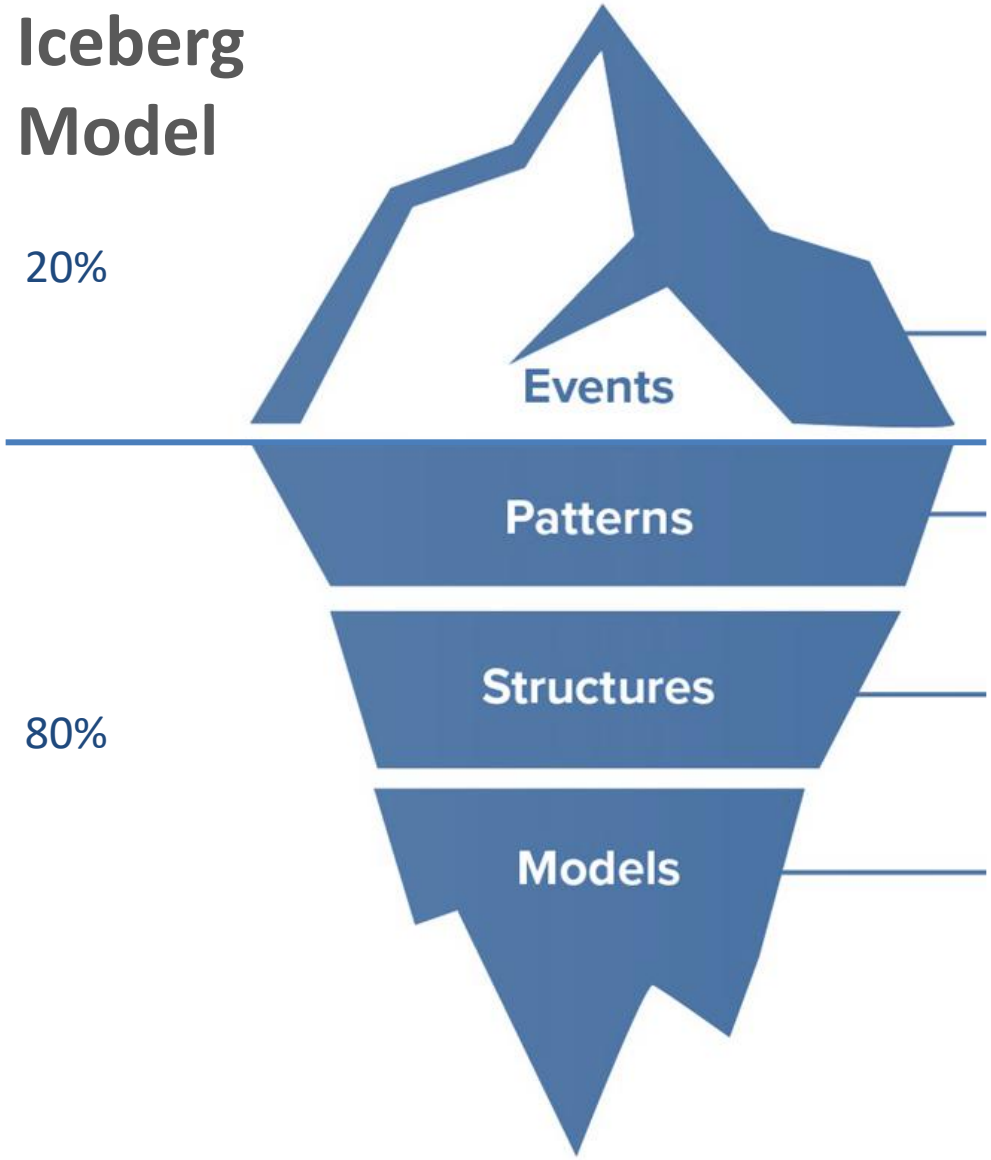


Donella Meadows' leverage points (Source: based on Meadows, 1999; credit: UNDP/Carlotta Cataldi)

Group work

1. Get a set of numbers of **leverage points**.
2. Individually, **read** the leverage points you got. **Take some notes** (40 min)
3. Together with the other person who also got your numbers, **clarify** the leverage points and **decide how to** clearly **explain** them to the class. Make a draw if you want. Include one or more examples. (40 min)
4. **One student** from the group (randomly selected) will **present** to the rest of the class the leverage points and the example in a maximum of **5 minutes.**
5. For each group we can have **Q&A** for about 10 min.

Iceberg Model



The observable actions and phenomena

Describe trends over time

How the parts are interrelated to influence the patterns

The mental models that support everything else in the system

Source: SI innovation - Leverage Points Guide

Iceberg Model example

Event

Catching a cold would be an event.

Pattern

Catching colds more often when we are tired is a pattern

Structure

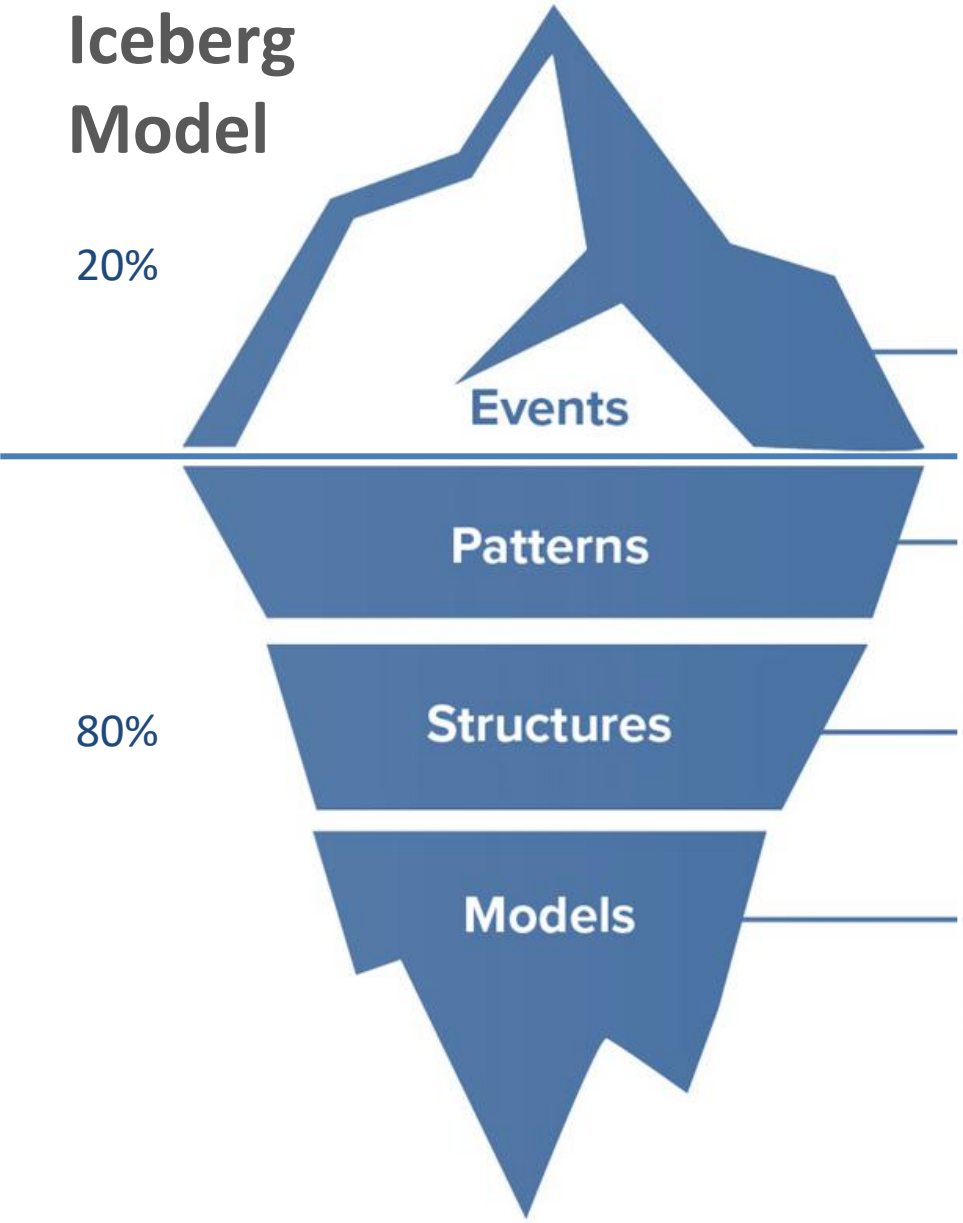
The systemic structures or causes for getting tired might include a lack of rest from excessive work

Models

This structure may be created by our mental model surrounding our identity as a hard-working person

Source: SI innovation - Leverage Points Guide

Iceberg Model



12. Constants, parameters, numbers - such as products sold, number of employees, etc.
11. The sizes of buffers and other stabilizing stocks, relative to their flows.
10. The structure of material stocks and flows - such as transport networks, population age structures.
9. The lengths of delays, relative to the rate of system change.
8. The strength of negative feedback loops, relative to the impacts they are trying to correct against.
7. The gain around driving positive feedback loops.
6. The structure of information flows - who does and does not have access to information.
5. The rules of the system - such as incentives, punishments, constraints.
4. The power to add, change, evolve, or self-organize system structure.
3. The goals of the system.
2. The mindset or paradigm out of which the system - its goals, structure, rules, parameters - arises.
1. The power to transcend paradigms.

Source: SI innovation - [Leverage Points Guide]

Iceberg Model

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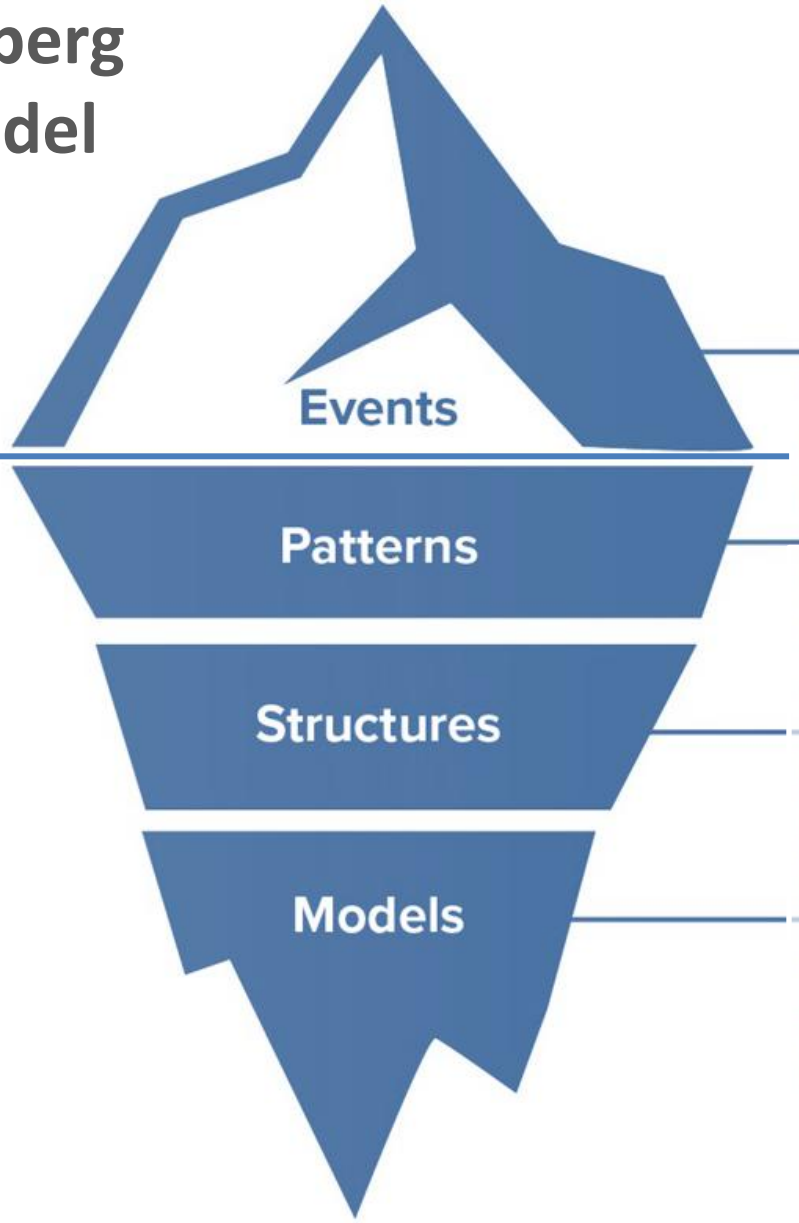

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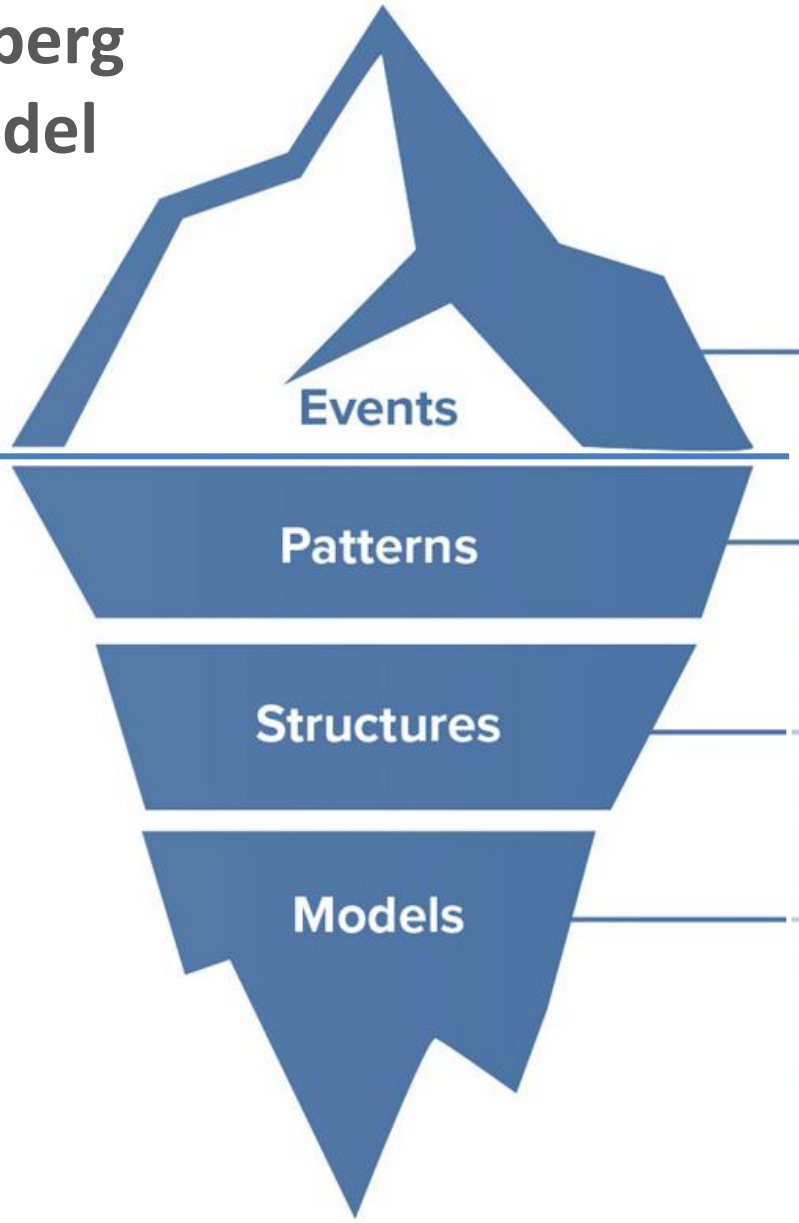

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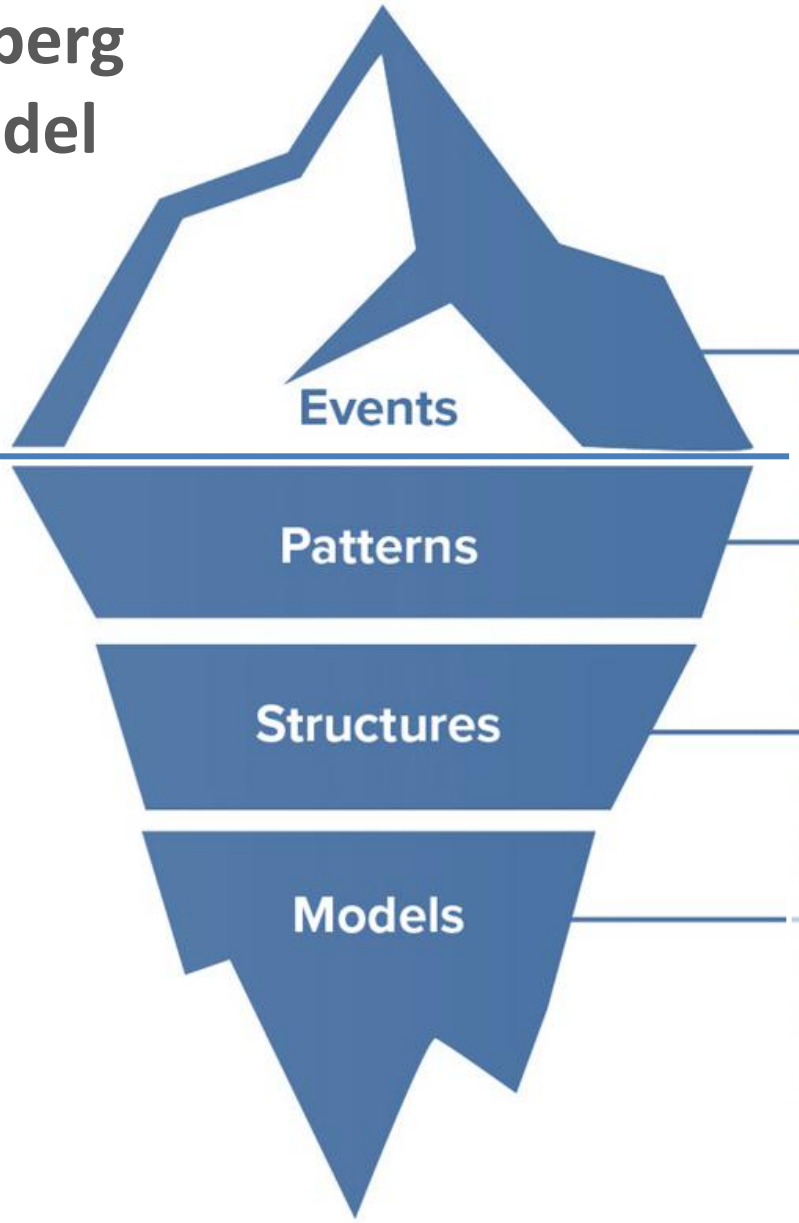

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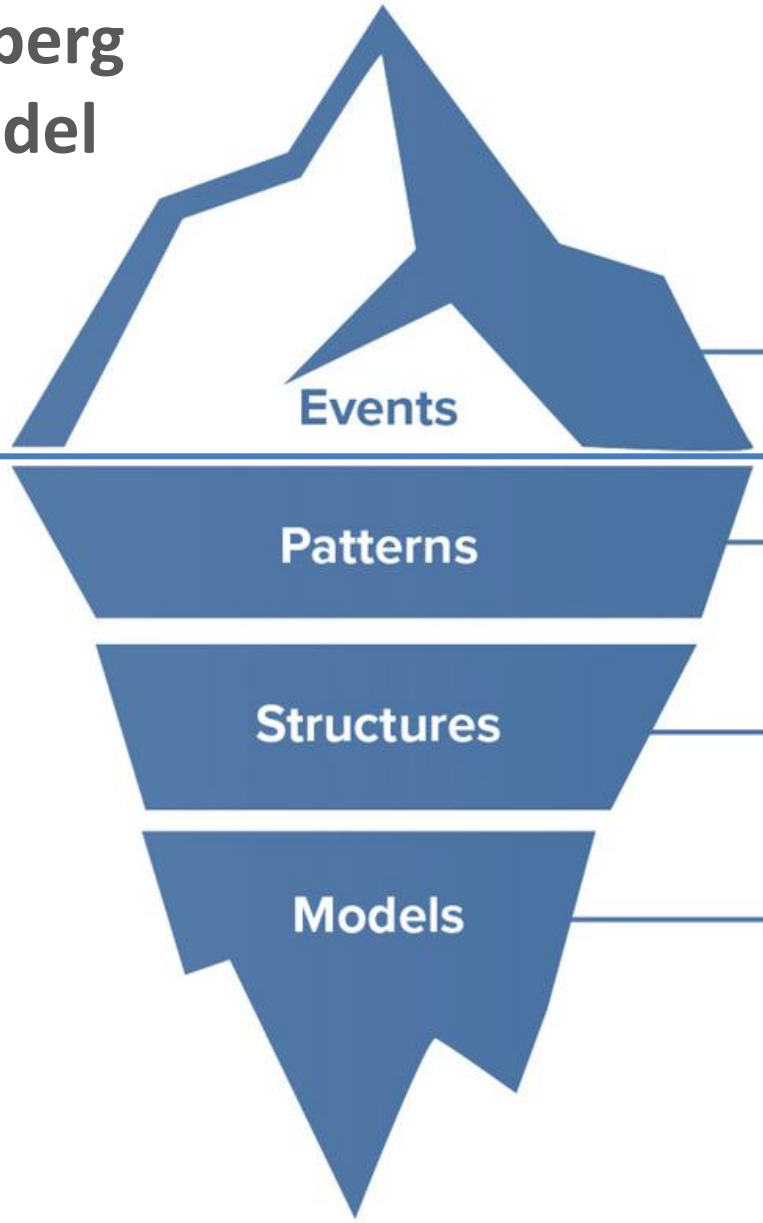

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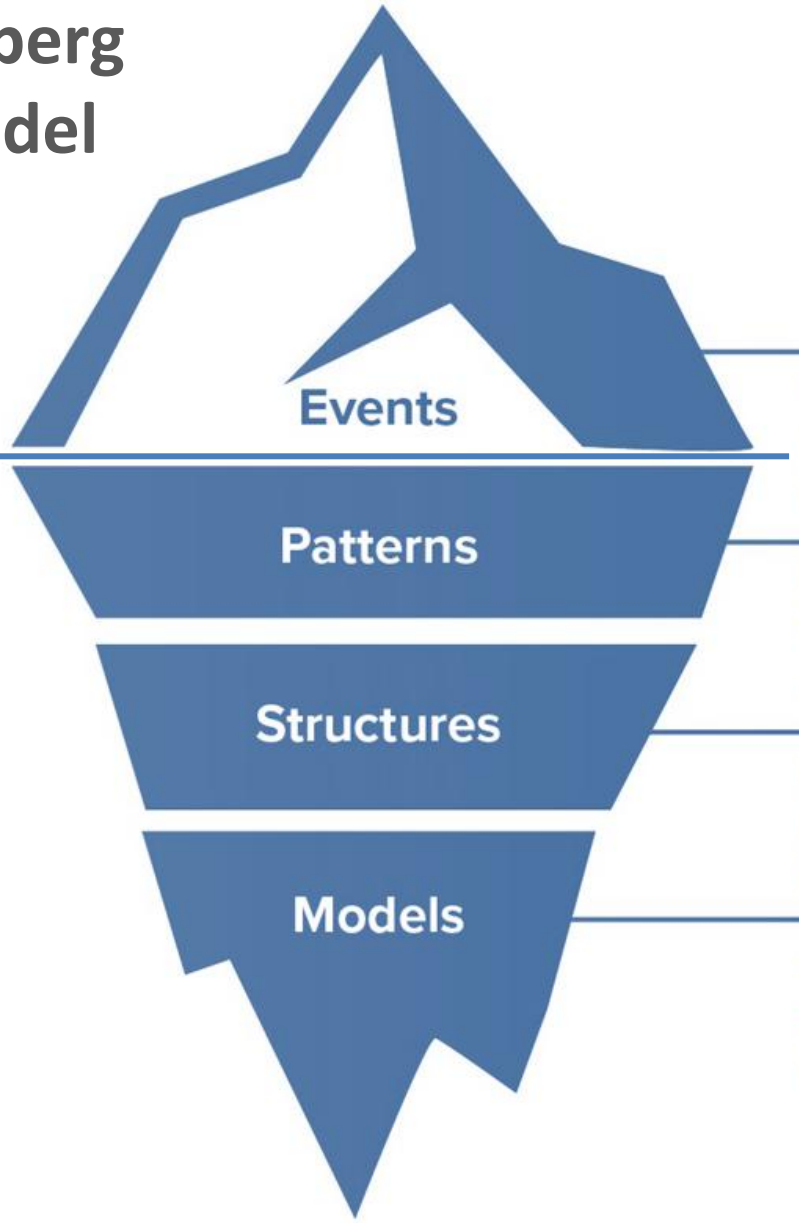

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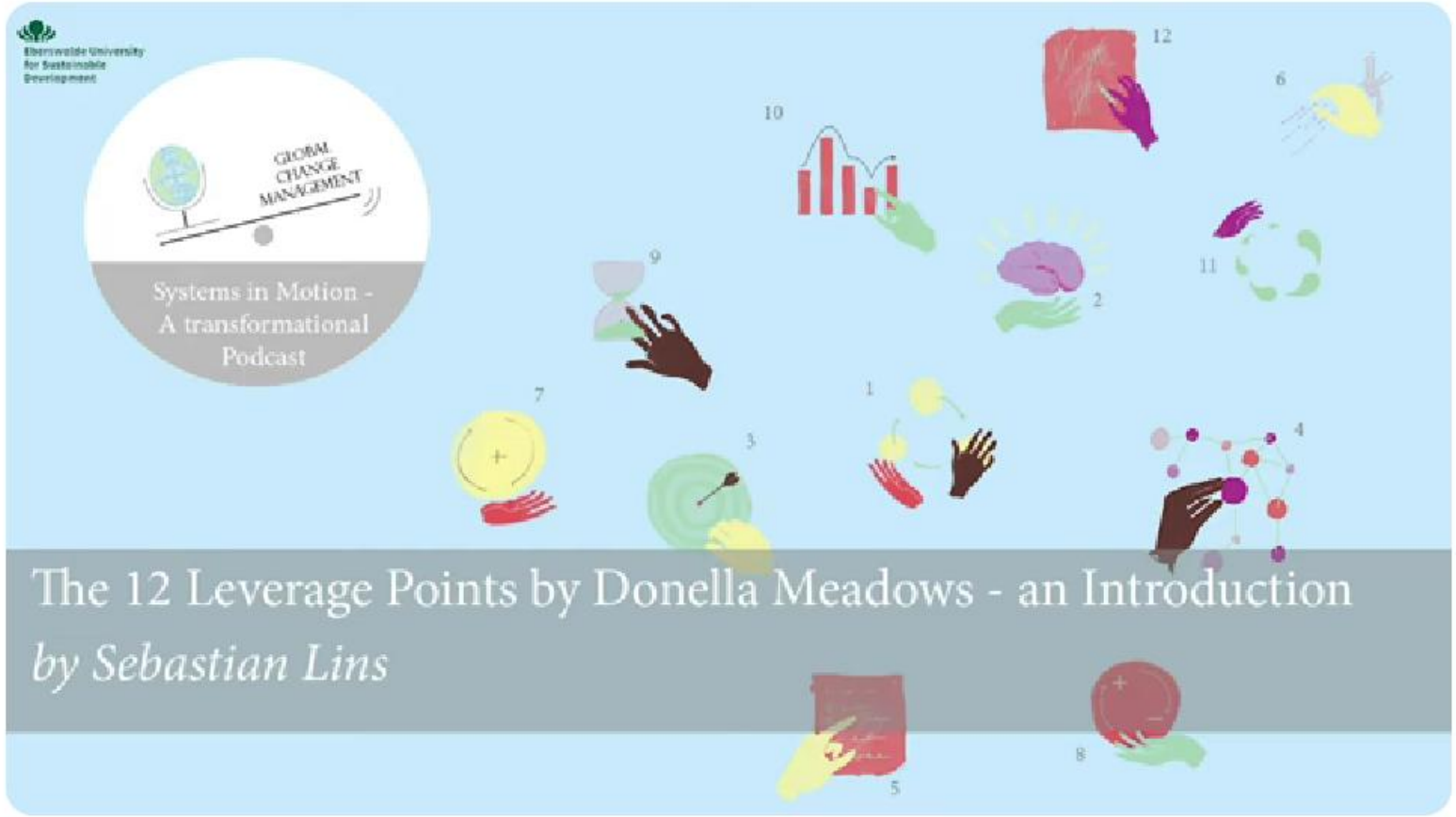
Source: SI innovation - Leverage Points Guide

Dancing with Systems

1. Get the beat.
2. Listen to the wisdom of the system.
3. Expose your mental models to the open air.
4. Stay humble. Stay a learner.
5. Honor and protect information.
6. Locate responsibility in the system.
7. Make feedback policies for feedback systems.
8. Pay attention to what is important, not just what is quantifiable.
9. Go for the good of the whole.
10. Expand time horizons.
11. Expand thought horizons.
12. Expand the boundary of caring.
13. Celebrate complexity.
14. Hold fast to the goal of goodness.

https://donellameadows.org/archives/dancing-with-systems/

https://www.greenbridges.nl/learning-to-dance-with-systems-donella-meadows-view/



"The 12 Leverage Points by Donella Meadows - an Introduction" by Sebastian Lins

https://www.youtube.com/playlist?list=PL6-H-Y-s-JdIw8KeGNtohc62uAWPWOrBf

Optional task:

Listen one of the episodies from Systems in Motion – a transformational podcast (GCM 2021):

Did this case connect well with the idea of 12 leverage points?

To take away…

1. Individually and for 5 min think about:

Why leverage points are useful?

2. Share your answer with a partner and listen carefully.

3. In 10 min create a single answer building on each other's thoughts, and synthesizing.

Any questions?...

Question by KonKapp from NounProject.com

…thank you for your attention!

Luzmila.rosales@hnee.de

References

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