

**Problemas Sociais Complexos:
Desafios e Respostas
Conferência Internacional**

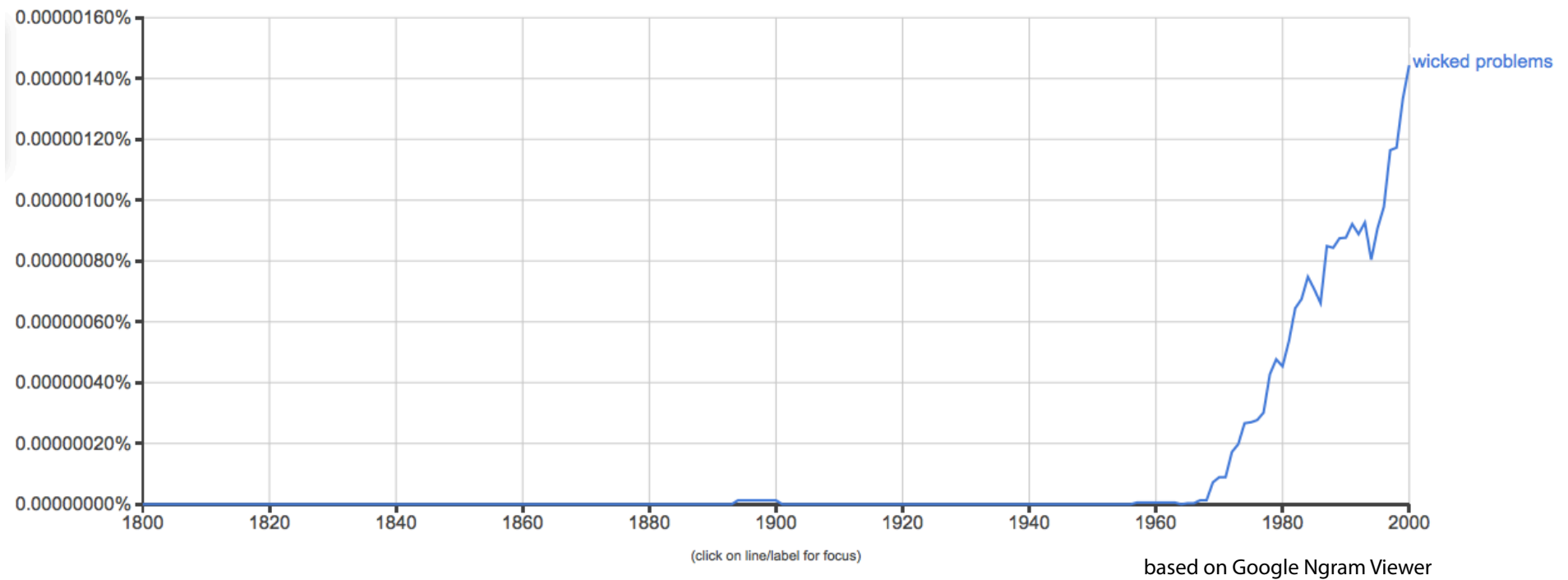
Fundação Calouste Gulbenkian - IPAV

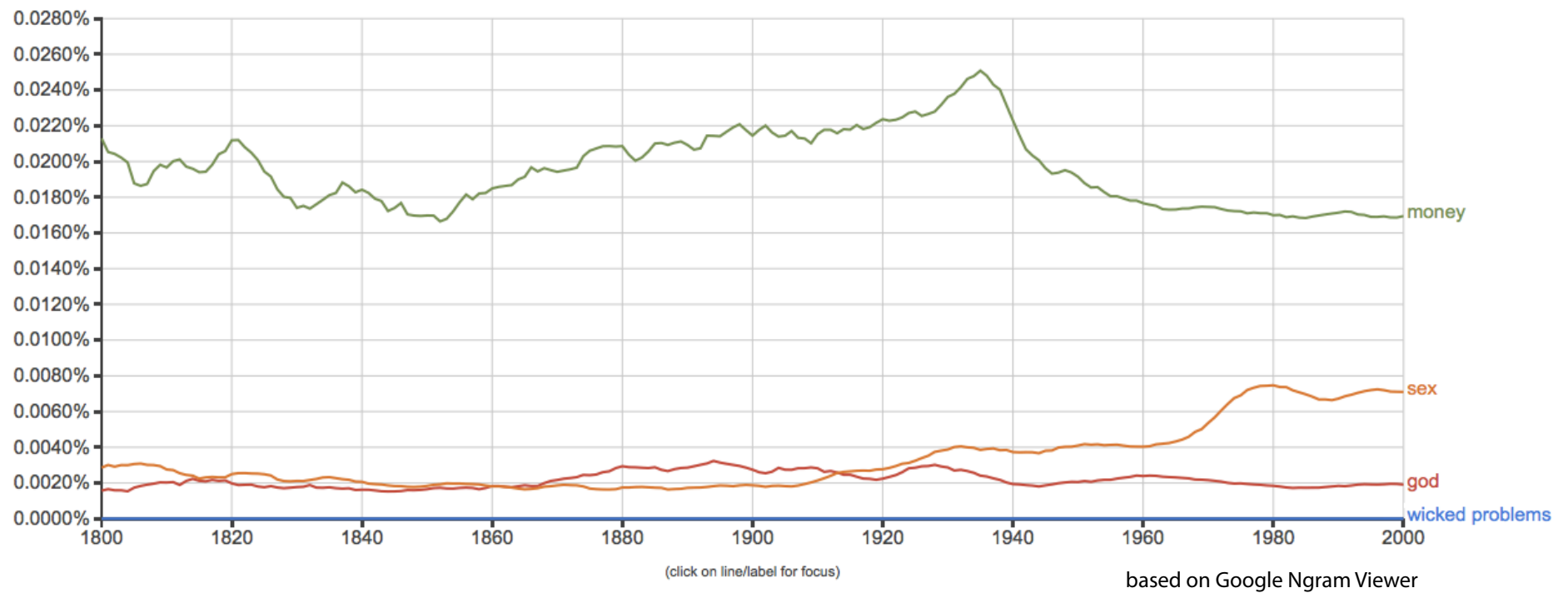
**Working with
Wicked Problems**

Philippe Vandebroek
Partner, shiftN

Lisbon, July 11 2014

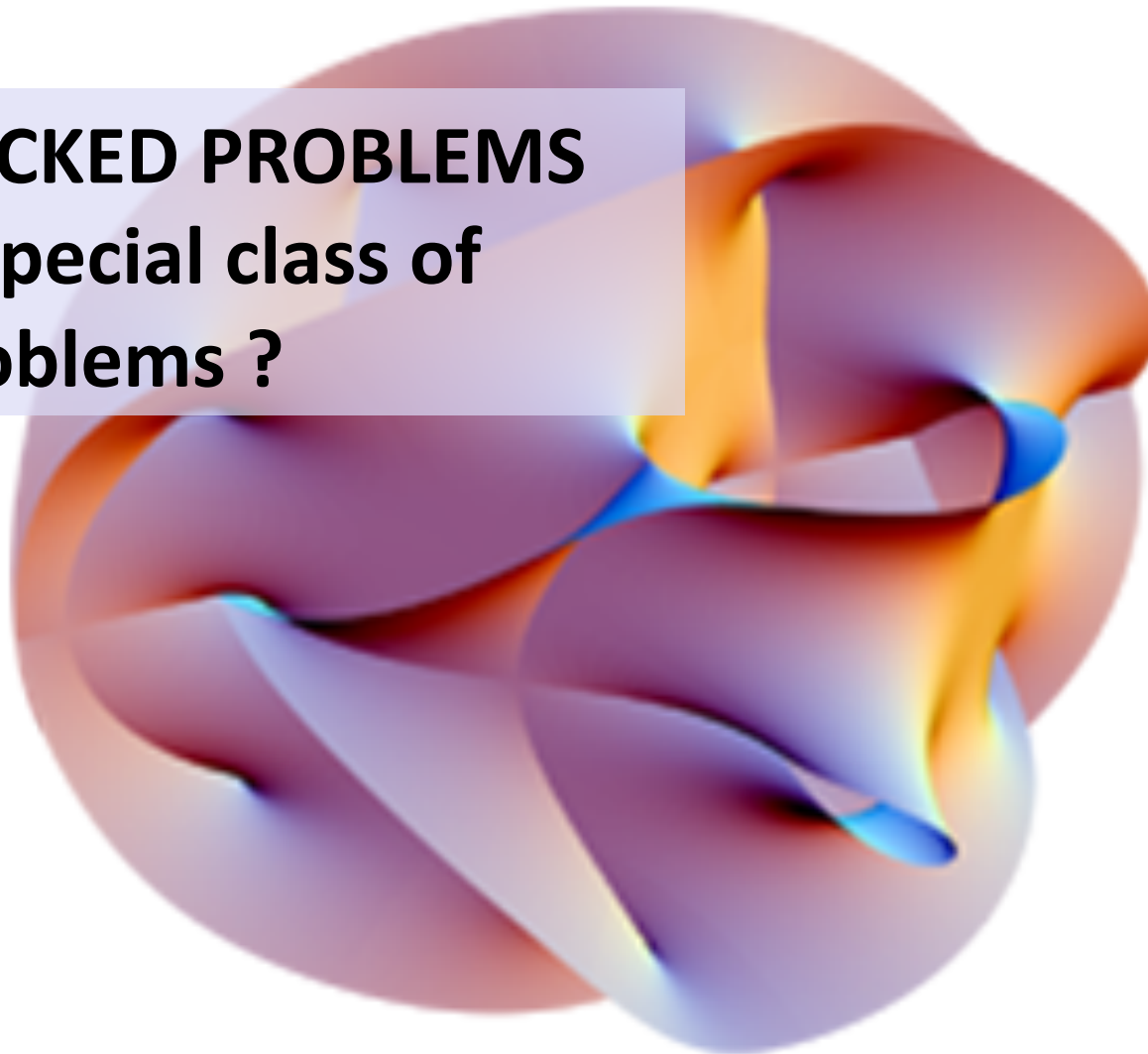
A surge of interest ...





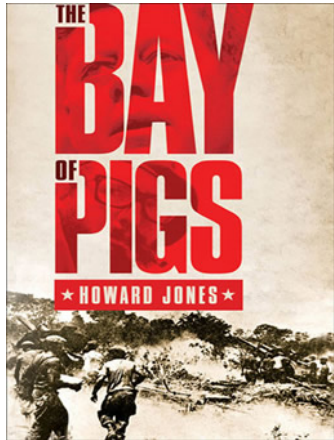
WICKED PROBLEMS

A special class of problems ?



Picture: Calabi-Ya Manifold
Courtesy Berkeley Center for
Cosmological Physics

Cuban Missile Crisis, 1961



Kennedy Assassination, 1963



Vietnam War, 1964-1973



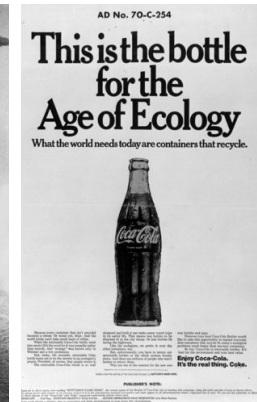
US urban riots, 1964 onwards



Moon landing, 1969



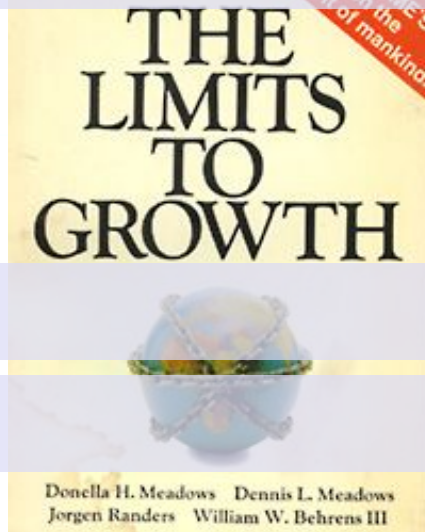
Student revolt, 1968



Earth Day, 1970

The sixties

Meadows 1972



Beyond
the
Stable
State

Donald A. Schön

Schön 1972

THE year 2000

A FRAMEWORK
FOR SPECULATION ON
THE NEXT THIRTY-THREE YEARS

Demonstrating the new techniques of the
think tanks, this book projects what our
own world most probably will
be like a generation from now...
and gives alternatives.
by HERMAN KAHN
and ANTHONY J. WIENER
Introduction by DANIEL BELL

Kahn & Wiener 1968

The late
1960s and
early 1970s:
a period of
ferment

Russell L. Ackoff
REDESIGNING THE FUTURE
A Systems Approach to Societal Problems

Ackoff 1973

a Pelican Book

Freedom in a
Rocking Boat
Changing Values in an Unstable Society
Geoffrey Vickers

"IF WE CAN
DECIDE UPON
OUR PRIORITIES
WHICH WE
WILL
MACHINES
RATHER THAN
BE USED
BY THEM"

Vickers 1972

Future
Shock
by
Alvin
Toffler

Toffler 1970

L'ART DE LA
CONJECTURE

De Jouvenel 1964

ÉDITIONS DU ROCHER

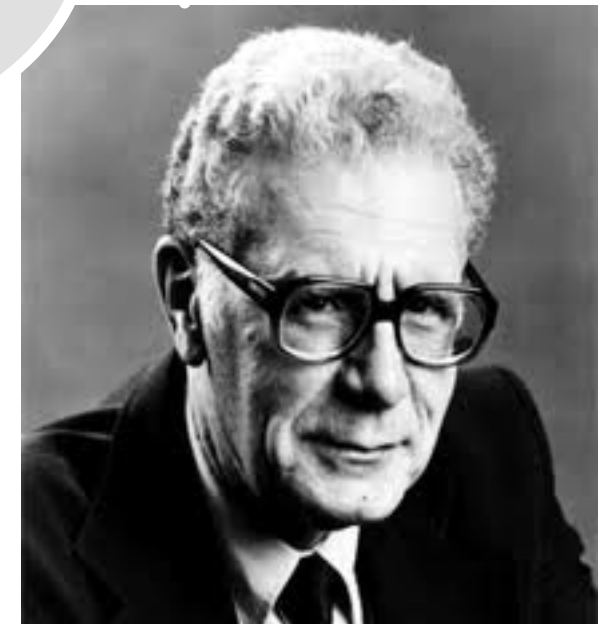
Planning problems are inherently **wicked**: ill-defined and reliant on political judgment. They are never solved. At best they are re-solved, over and over again.

Horst Rittel and Marvin Webber, 1973



What decision-makers deal with are **messes**, not problems. A mess is a set of external conditions that produces dissatisfaction.

Russ Ackoff, 1974

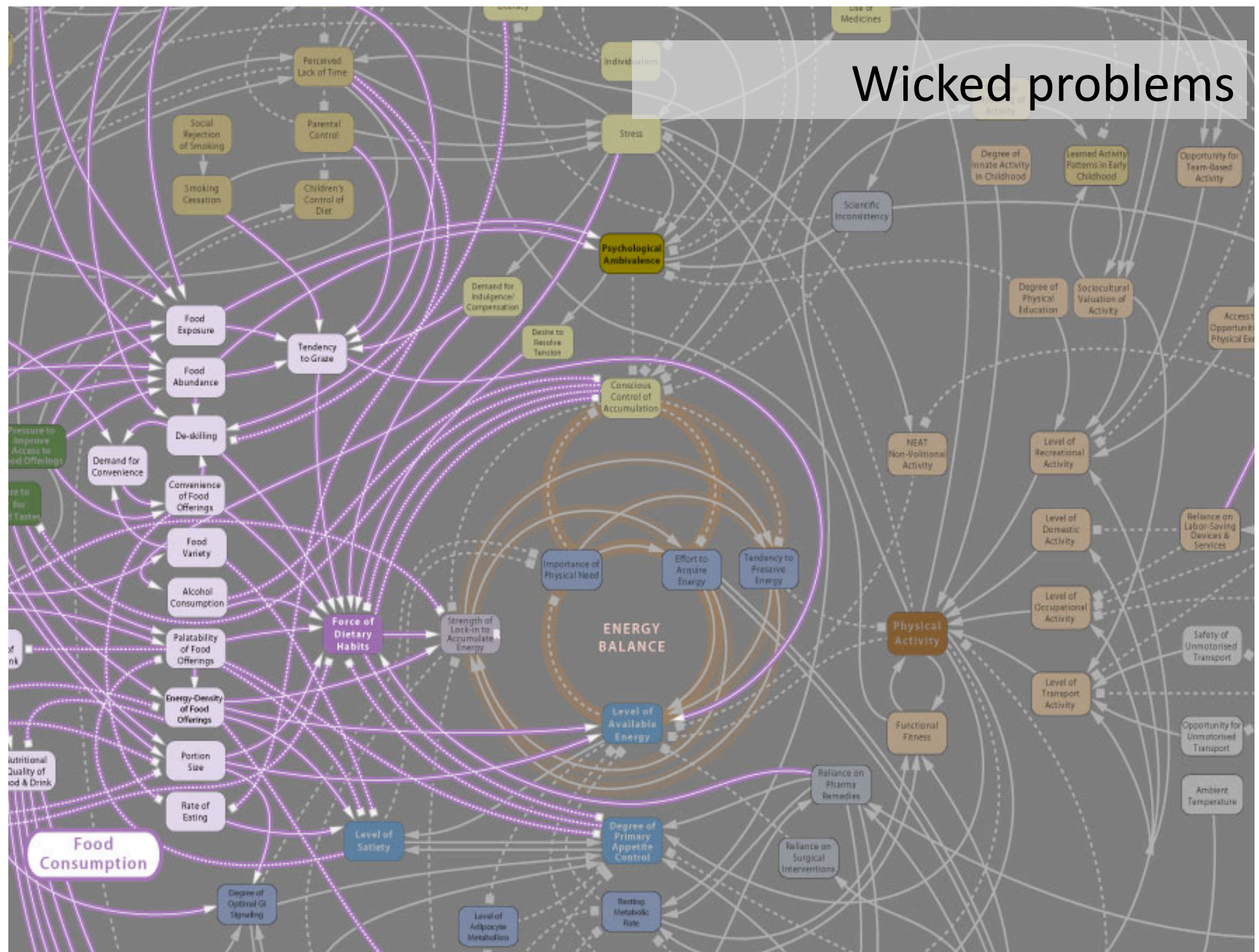


The policy process is 'a **swampy lowland**' where solutions are confusing messes incapable of technical solutions



Don Schön, 1979

Wicked problems



Wicked problems

Wicked problems:

- Unclear causalities.
- Numerous intervention points.
- Data are scarce, dispersed and low quality.
- Uncertainty regarding costs and benefits of interventions.
- Multiple stakeholders with different, often incompatible worldviews.
- Formulation is subject to continuous reframing and renegotiation.
- Optimal solutions to wicked problems do not exist.
- There may be path dependency associated to intervention strategies.

Super-wicked problems:

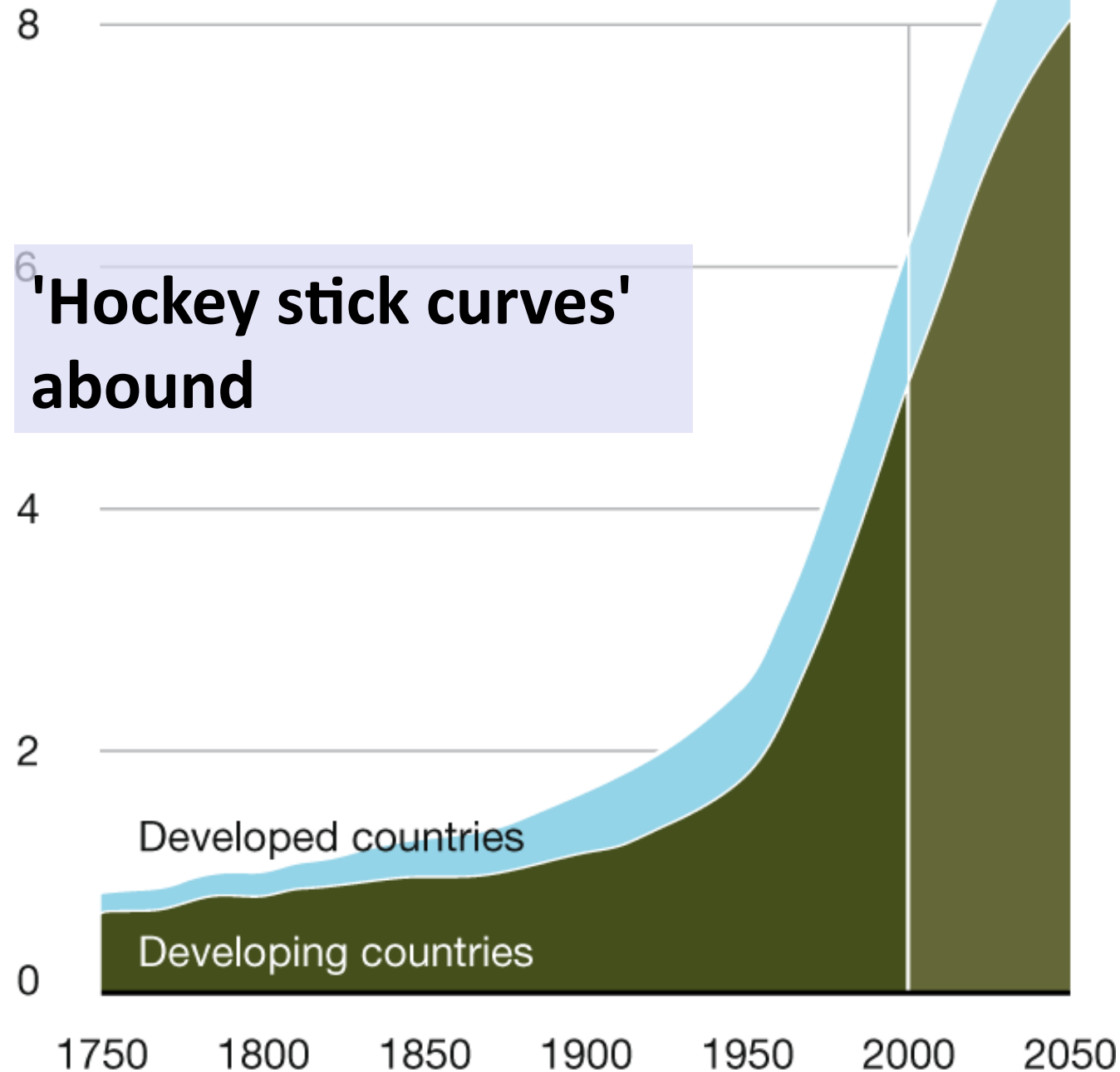
- The scope is planetary and the potential downside is very large.
- Those most responsible have least interest to do something.
- The longer one waits to do something about it, the more wicked it gets.

Our current predicament

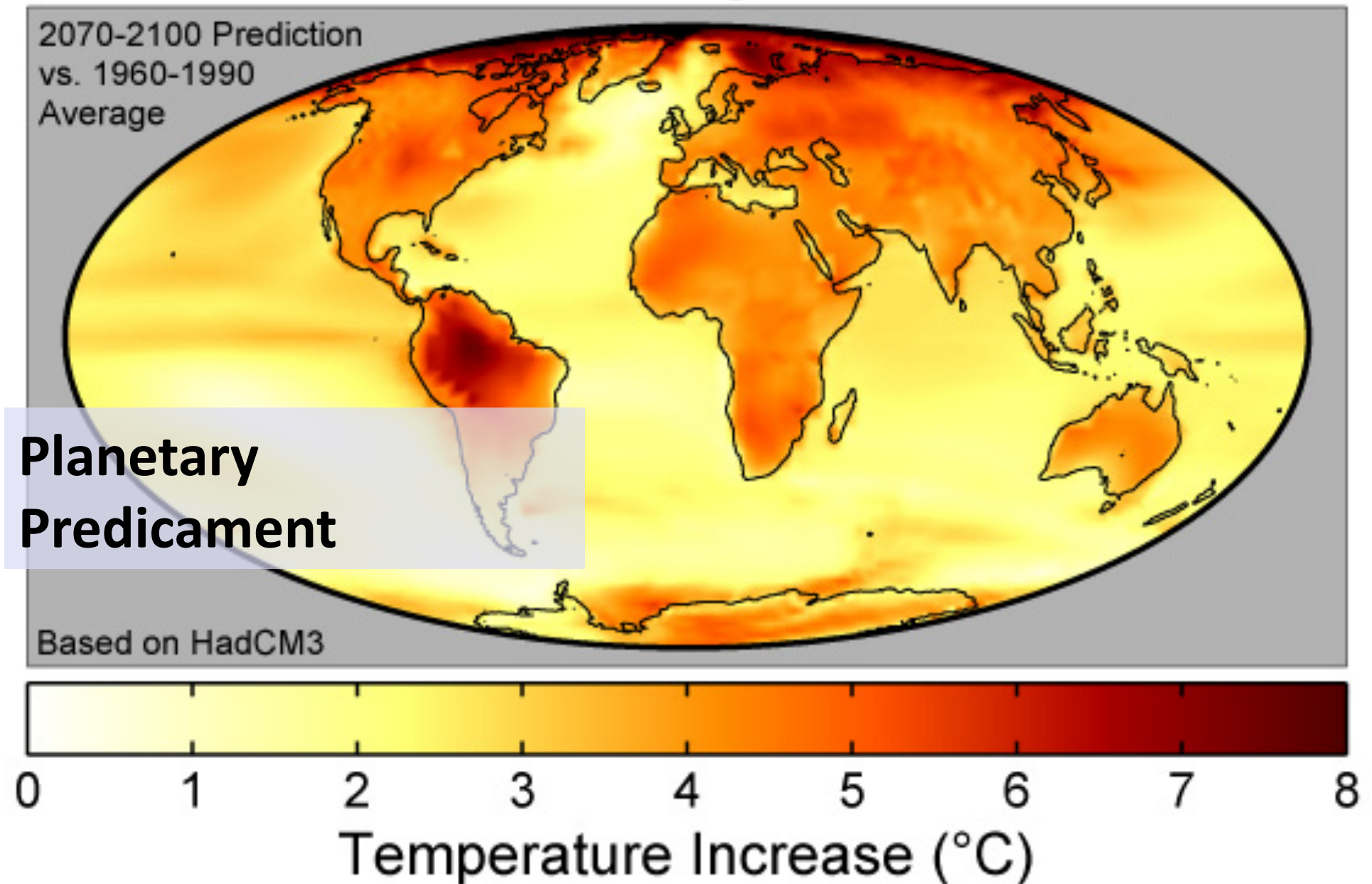
A high-angle, circular aerial photograph of New York City, specifically the area around Lower Manhattan. The image is transformed with a 'vortex' or 'pinwheel' effect, where the city's grid of streets and buildings spirals inward toward a central point, creating a sense of intense rotation and convergence. The surrounding water and sky are also distorted by this effect, appearing as concentric rings and radial lines. The overall color palette is dominated by the blues of the sky and water, and the greys and browns of the city's architecture.

Enter the Anthropocene

Global population,
estimates and projections (billions)



Global Warming Predictions





Connectivity

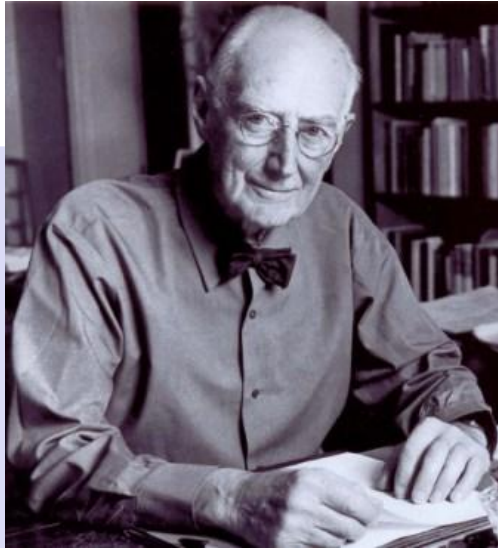
Picture: The Internet



Global Governance



But what does all this mean?
It's up to us to make sense of it ...

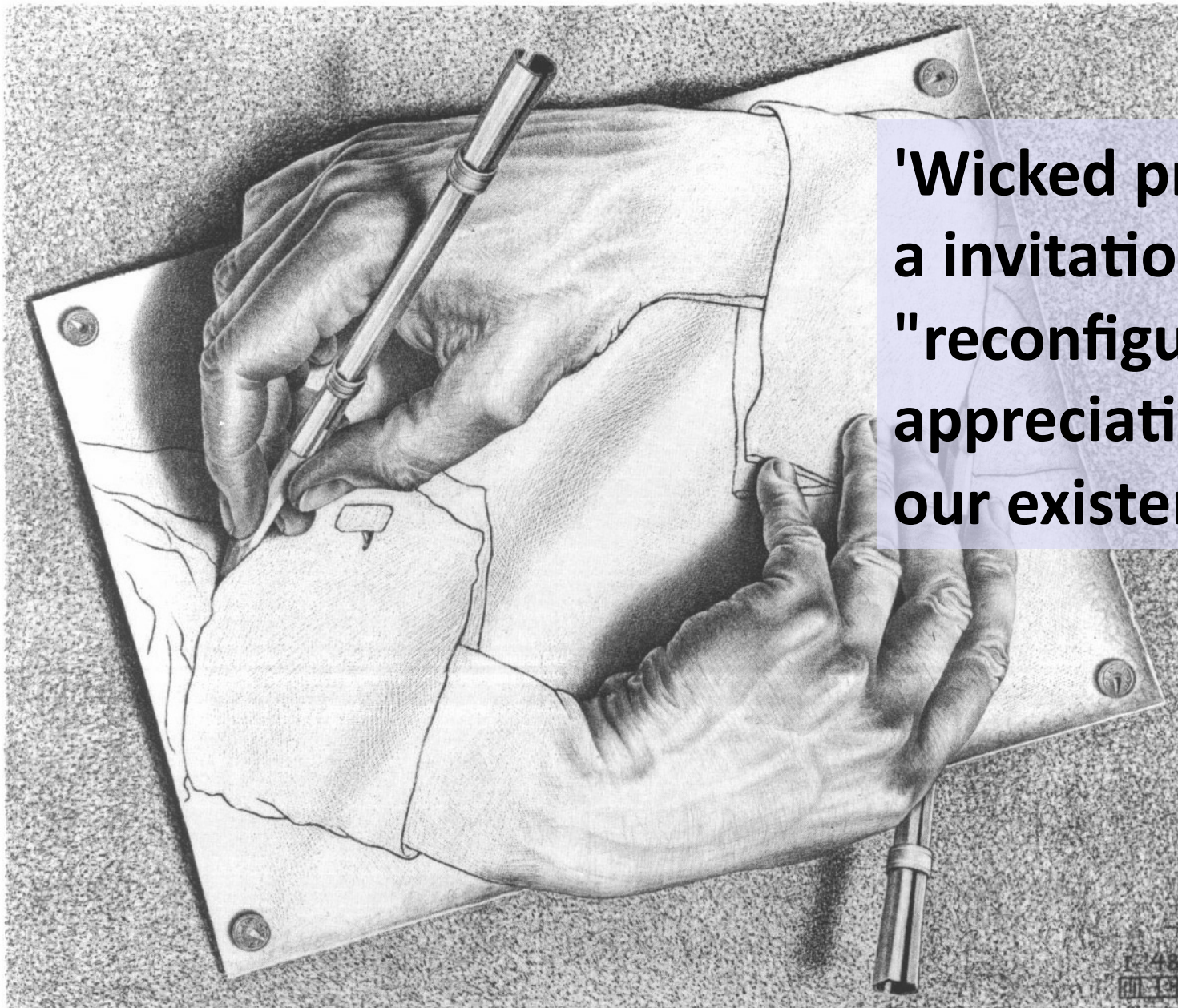


Sir Geoffrey Vickers
(1892-1984)

A trap is a trap only for creatures which cannot solve the problem that it sets.

Man-traps are dangerous only in relation to the limitations on what men can see and value and do.

The nature of the trap is a function of the nature of the trapped.



**'Wicked problems' as
a invitation to
"reconfigure the
appreciative basis for
our existence"**

Capabilities needed to work with wicked problems

design

**working
with
wicked
problems**

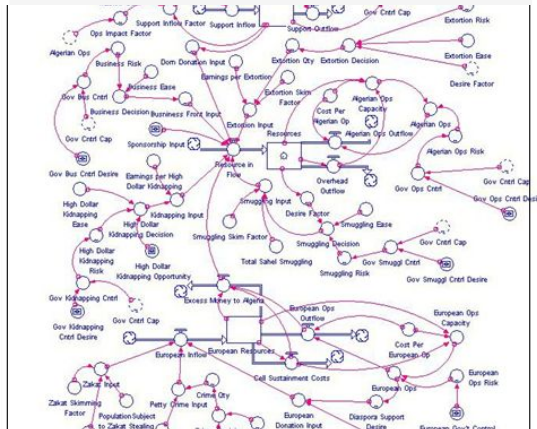
**systems
thinking**

dialogue

Anonymous uploader

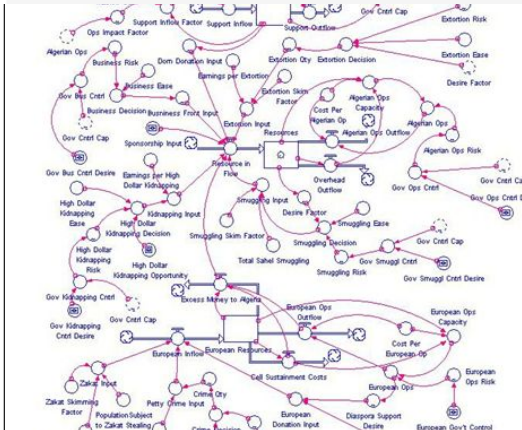
OPENWALLS

systems thinking



thinking 'big picture'
thinking relationships
thinking dynamics
working with
boundary judgments

systems thinking + dialogue

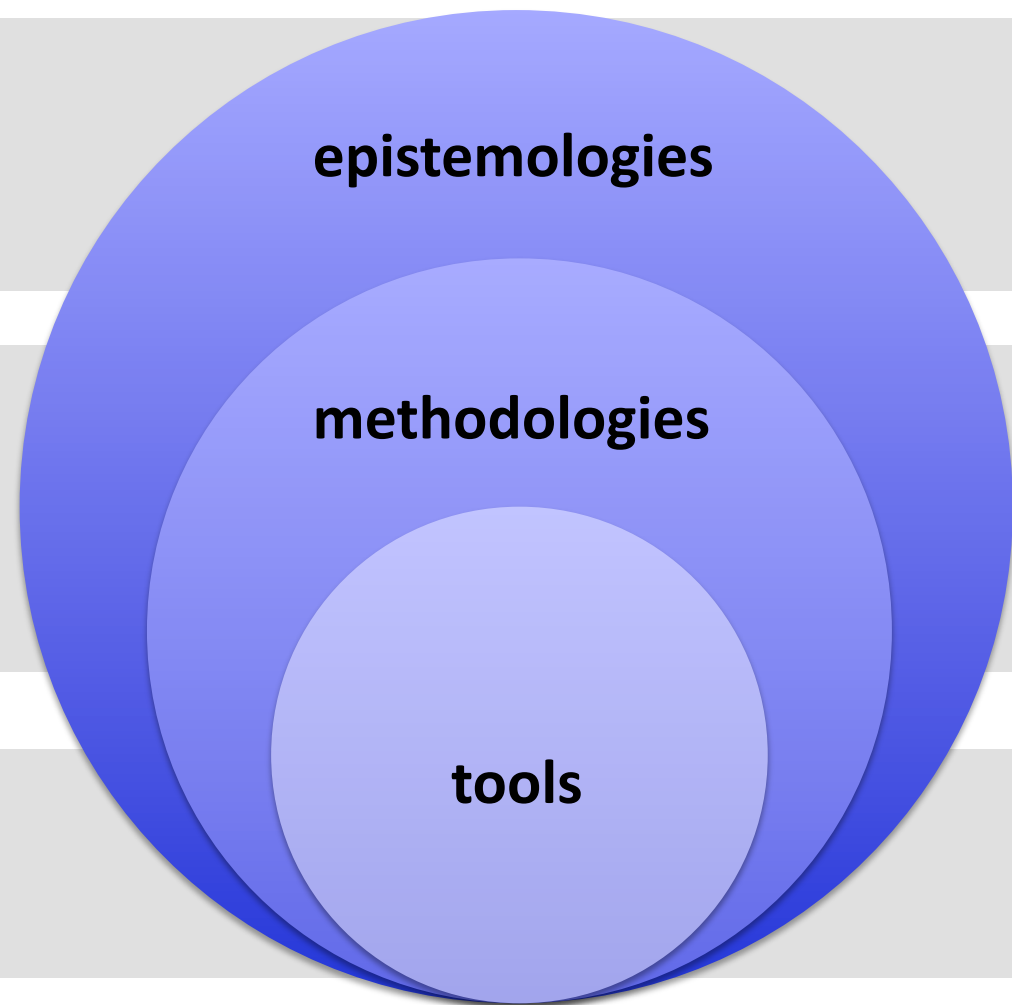


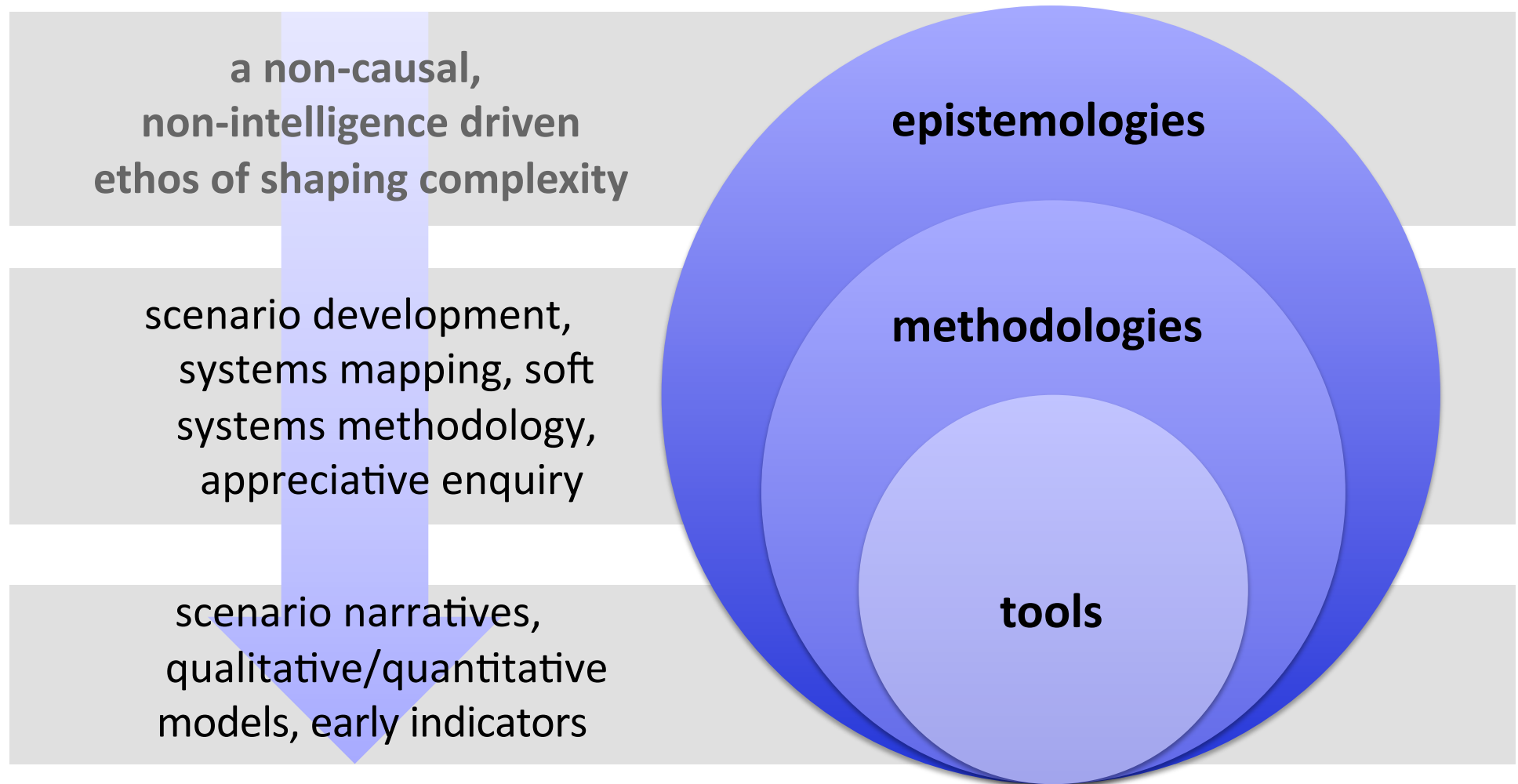
thinking 'big picture'
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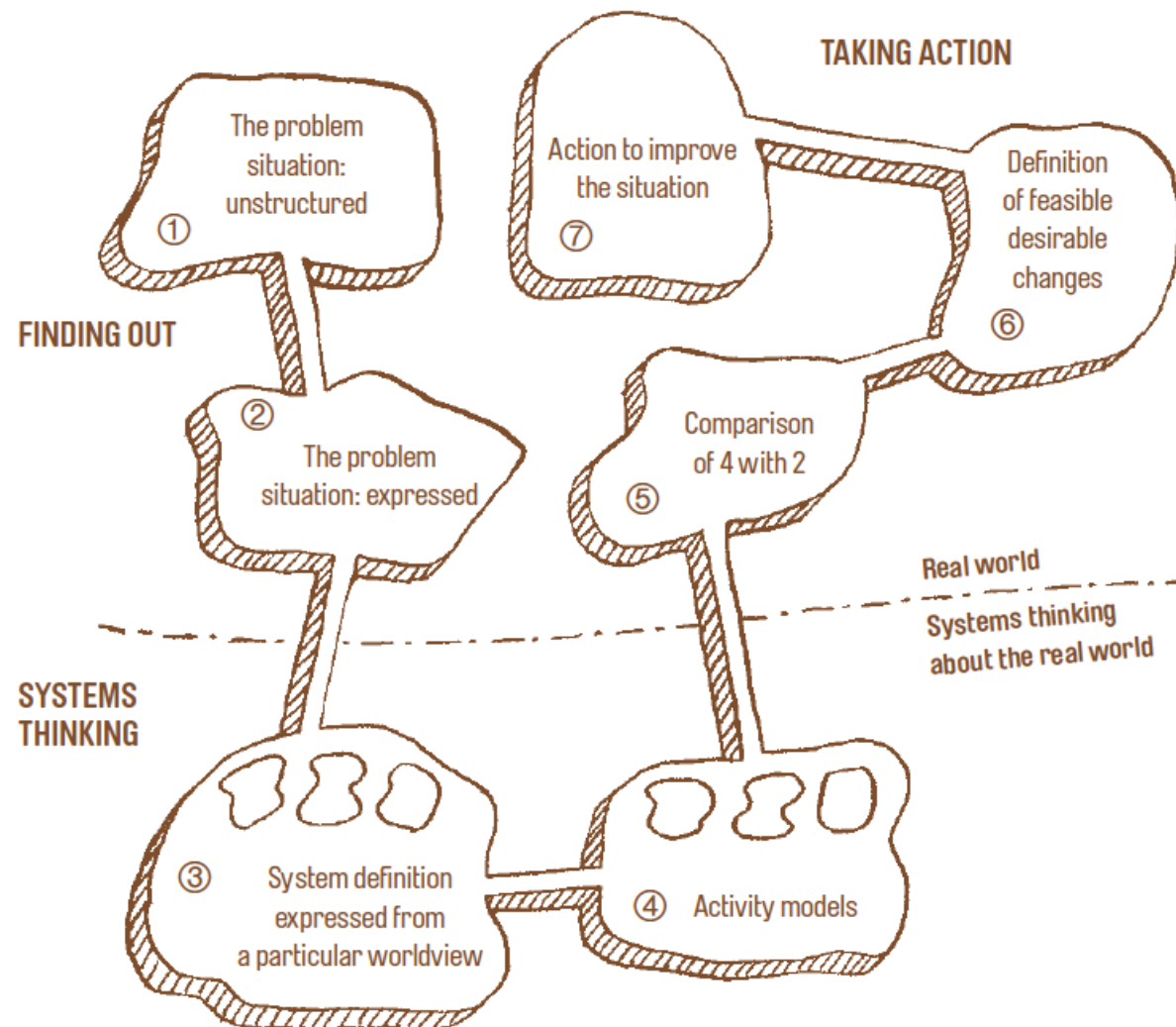
exercising empathy
cultivating
contingency
building
social capital

Where are the tools?





Soft Systems Methodology



Based on:
P. Checkland and J. Poulter
(2004)

SSM: Learning for Action

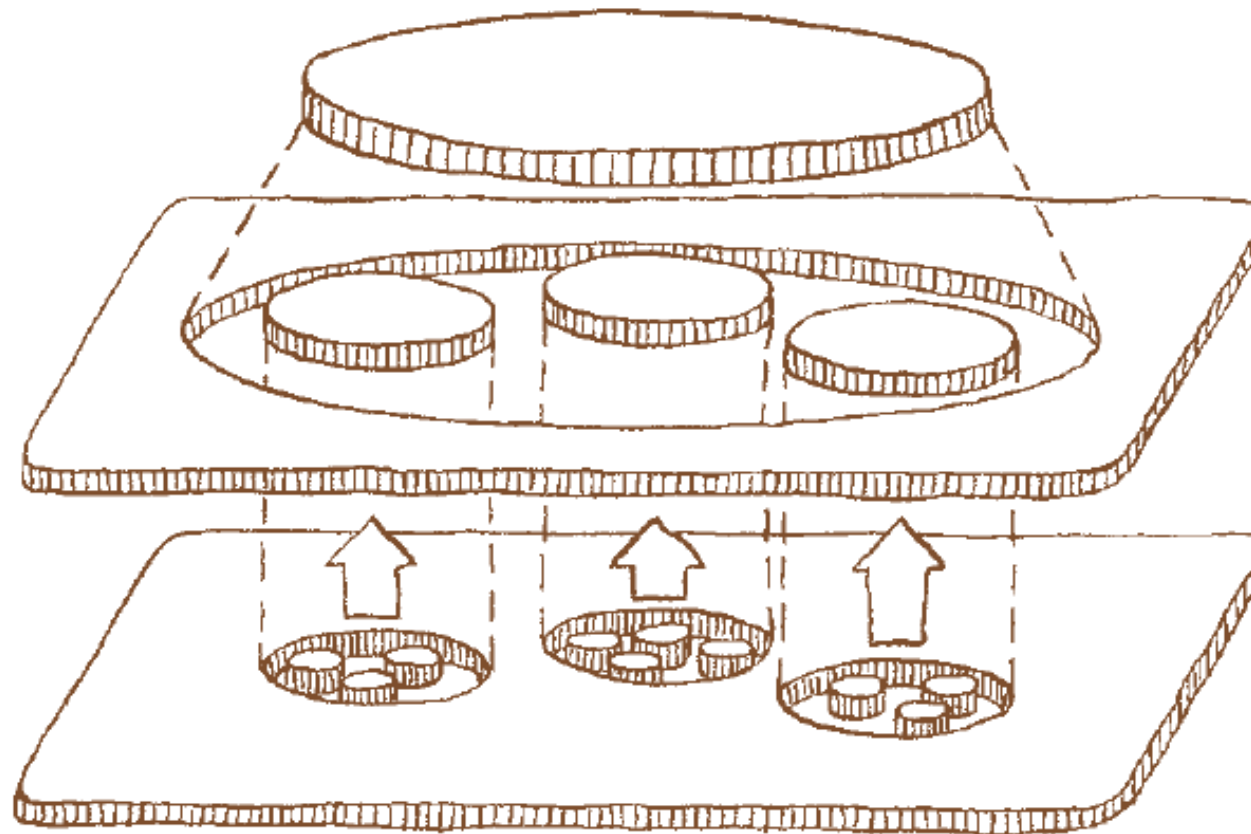
- A pragmatic approach to collaboratively improve (our understanding of) fuzzy problematical situations.
- Systems models are used as heuristic devices, developed from an explicitly declared worldview, not as 'pictures of reality'.
- Questions of purpose have priority over questions of method.
- Language matters: 'problematic situation', 'accomodation', 'human activity systems', ...
- The purpose of SSM is not to reach consensus, but to agree on a temporary 'accomodation', as a fleeting consolidation point in a learning process.
- SSM has been deployed in very varied circumstances (governance, information mgt, management).

Transition Management

Landscape

Patchwork
of regimes

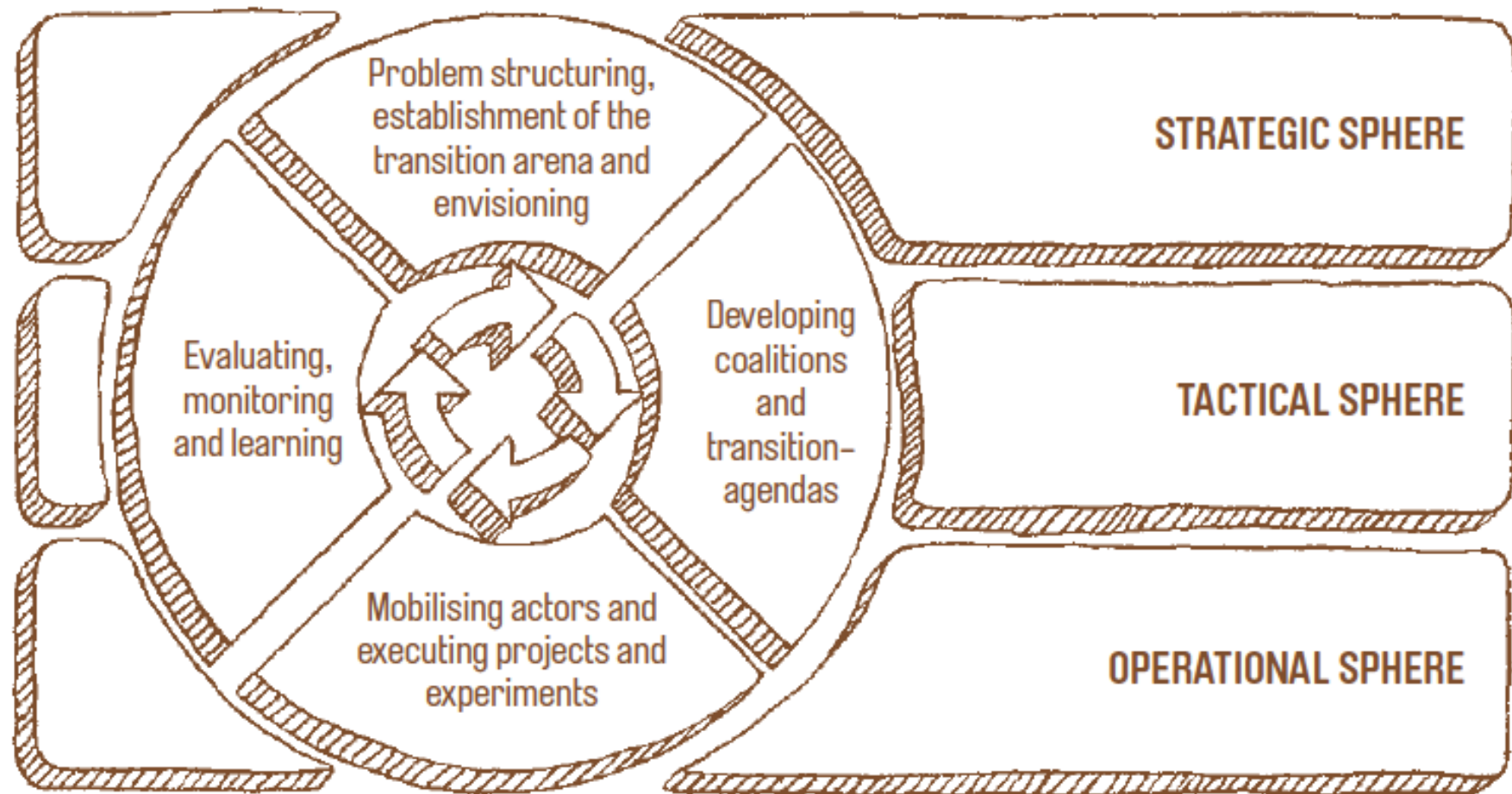
Niches
(novelty)



Transition Management

- A meta-methodology that emerged from Dutch innovation policy, inspired by technology studies, evolutionary economics and complexity science.
- Focus on radical changes in large-scale socio-technical systems (energy, mobility, agriculture, health care) towards sustainability.
- Transition 'Management' = an oxymoron. Change comes about as result of interactions between different systemic levels.
- Connects short term experiments with a long-term vision in a continuous learning dynamic: goal-oriented incrementalism.

Transition Management: a messy process



Process level where **new language** is being developed (e.g. 'wicked problems') as a basis for vision development.

Process level where a '**whole systems' vision** is being developed. It reflects the changes in value systems intuited at the strategic level as precondition for the introduction of innovations at the operational level.

Process level where **individual experiments** (innovations) are given shape

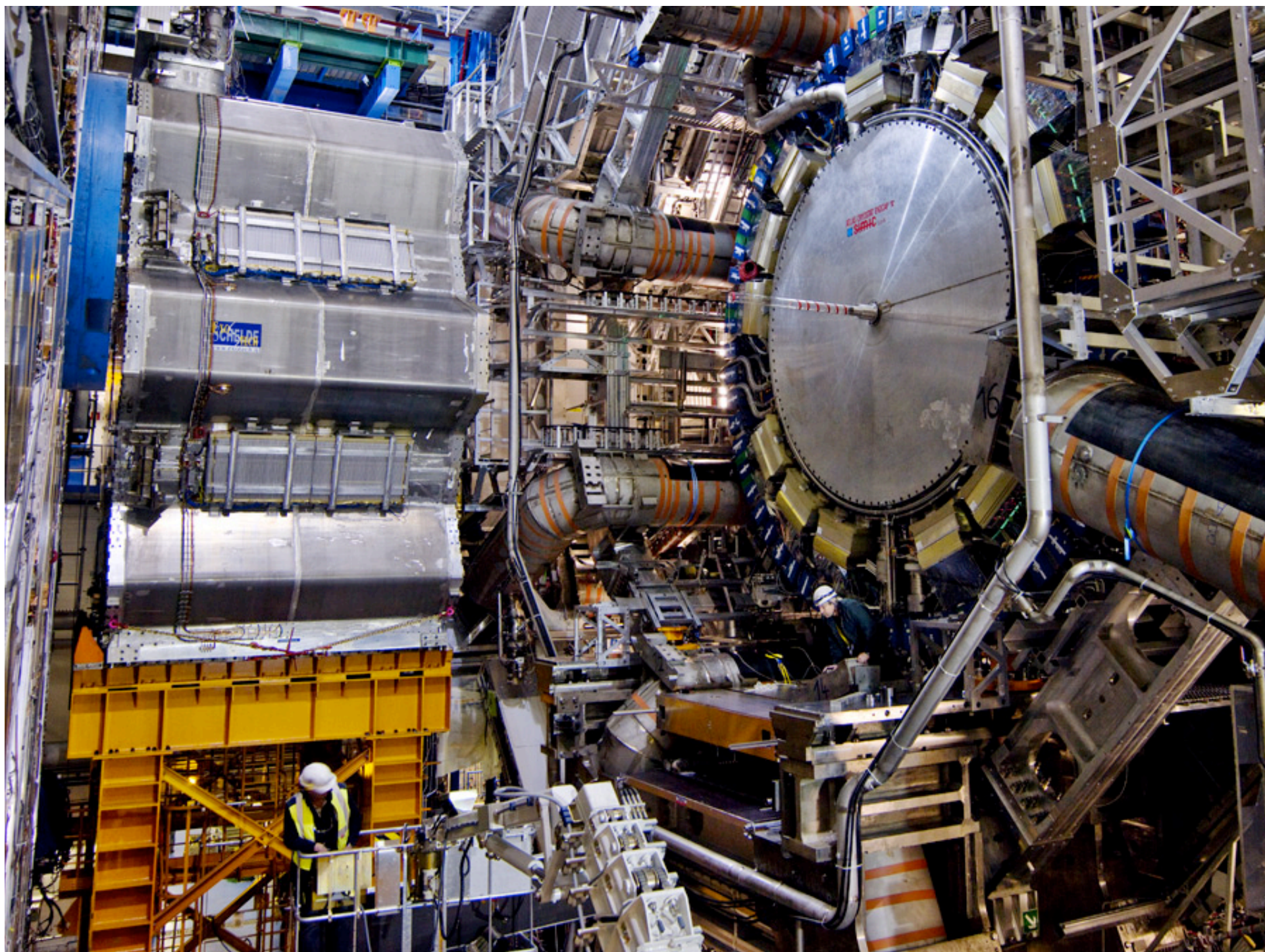
STRATEGIC SPHERE

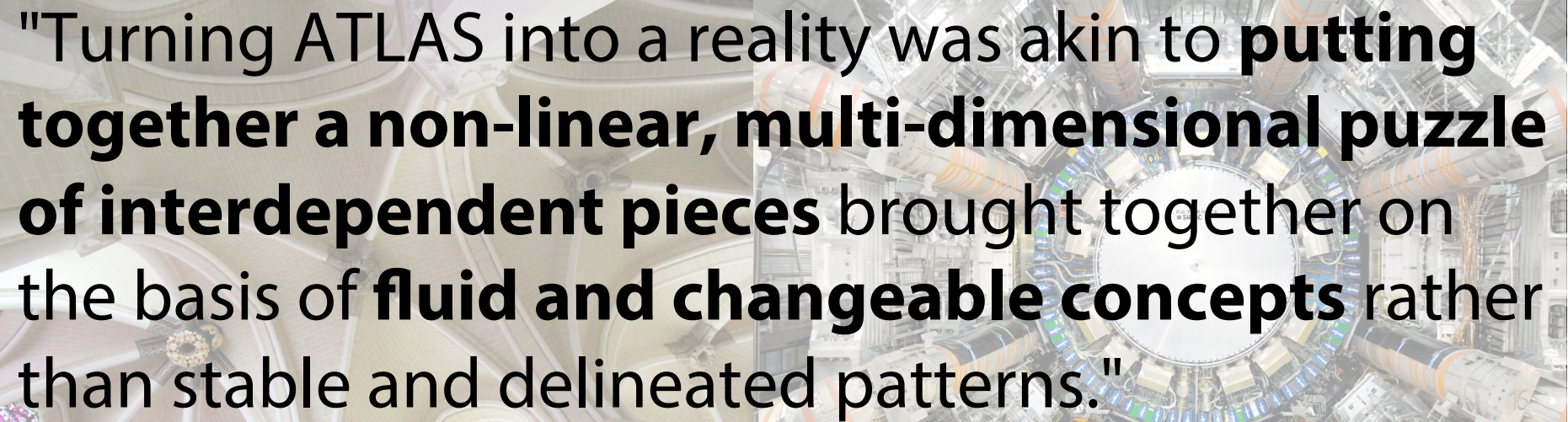
TACTICAL SPHERE

OPERATIONAL SPHERE

Coda: breakthroughs without a plan







"Turning ATLAS into a reality was akin to **putting together a non-linear, multi-dimensional puzzle of interdependent pieces** brought together on the basis of **fluid and changeable concepts** rather than stable and delineated patterns."

▸ Jenni, Nordberg and Boisot, 2011.

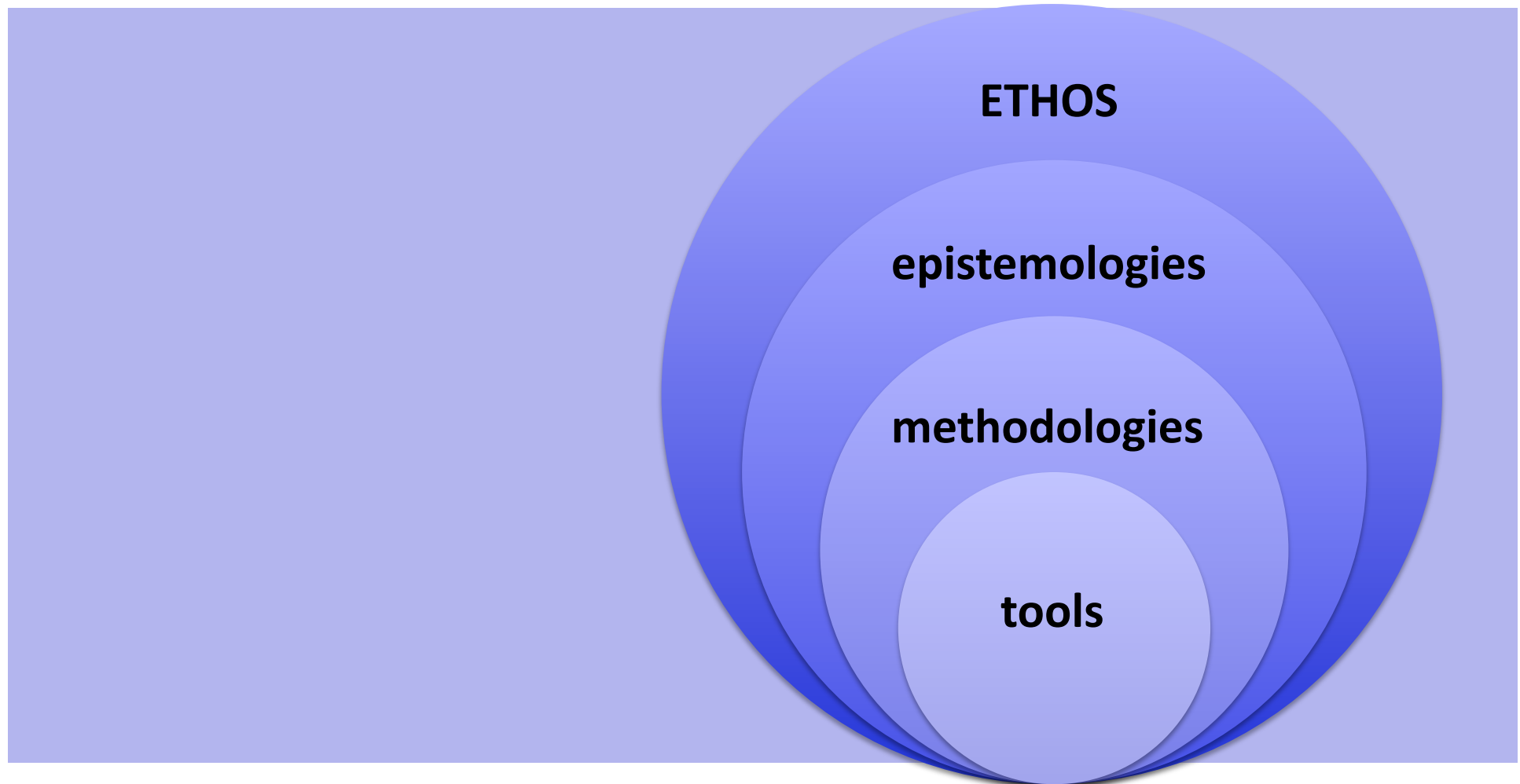
photo: Matthew Clemente, Flickr

photo: Claudia Marcelloni, CERN

Creating breakthroughs in a setting of irreducible uncertainty: lessons learned

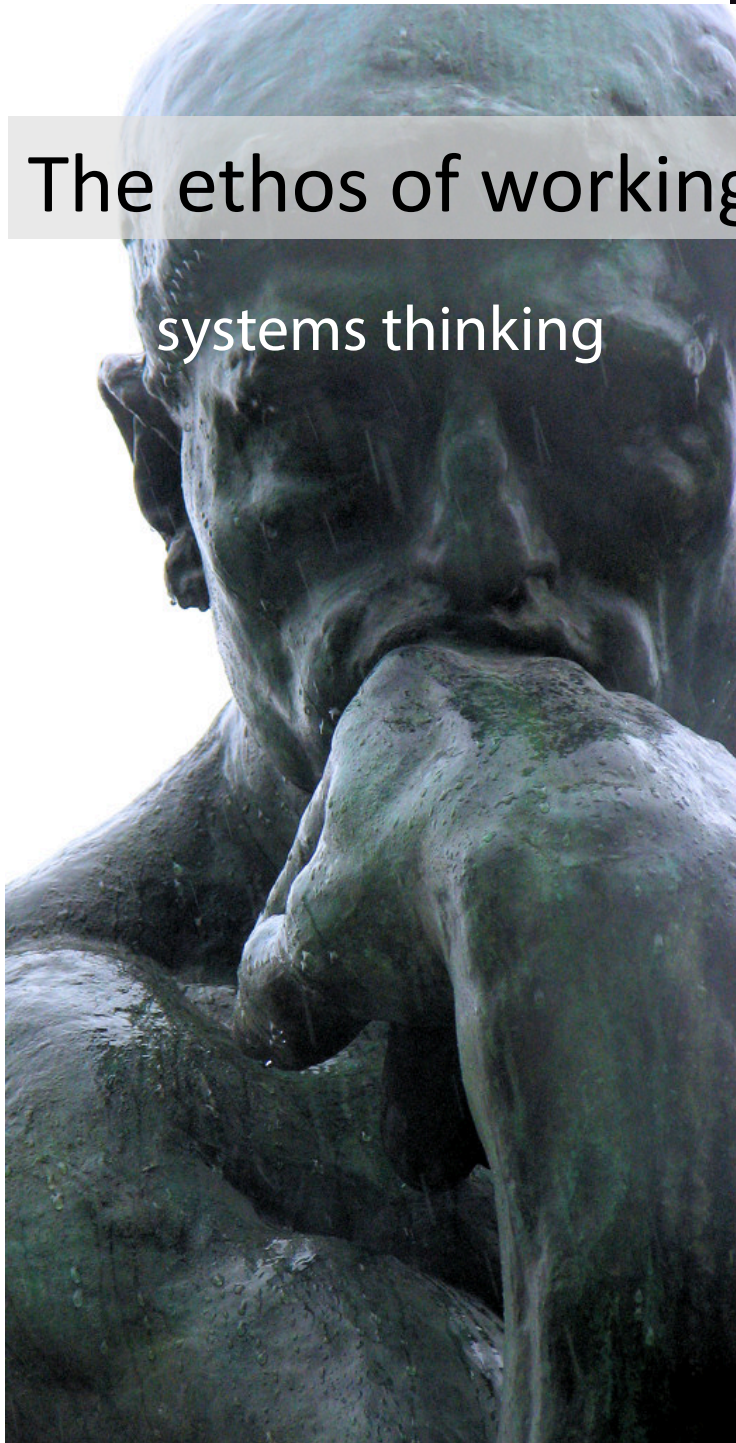
- Clear **mission**, strong values.
- No masterplan. Fluid design trajectory, keeping **options** open, hands-on **experiments**.
- First class, multidisciplinary technical **expertise**.
- **Decentralisation** of work streams and accountability.
- Intense information flow, boundary objects, **learning**.

The ethos of working with wicked problems



The ethos of working with wicked problems

systems thinking



dialogue



design





It's not only a matter of thinking, also of being

systems thinking

dialogue

design

depth

+

intimacy

+

idealism

a capacity for reflexivity;
the courage to examine
our deepest assumptions

a capacity for careful
observation;
the courage to surrender
to empathy

the courage to freedom;
the willingness to
pursue our goals
beyond practicality

WORKING WITH WICKED PROBLEMS

**Thank you
for listening**

**Working with wicked
problems**

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