Striving for Reflexive Science

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Abstract of Abstract

- **The “reflexivity” policy narrative:** Scientists, scientific practices, the governance of science and indeed modern society should become more reflective/reflexive. This can be achieved by involving SSH, which are inherently reflexive.

- **Lesson 1:** the need to go beyond the simple policy narrative “SSH makes science more reflexive” and the many disappointments that it invariably produces.

- **Lesson 2:** the need to go beyond simple dichotomies between SSH research and scholarship on one hand and non-SSH research on the other in order to look for meaningful collaborations.
ELSI/ELSA and post-ELSI/ELSA 2.0

• An important aim of ELSA is creating societally robust bio-, nano- and neurotechnologies. The programme will work to explore central challenges for governance, risk, regulation, culture, and values connected to these technologies. The programme should contribute to increase reflexivity and promote learning among ELSA researchers as well as scientists.

https://www.forskningsradet.no/en/Funding/ELSA/1253954329471
• A 21st century view of science must not only embrace the wider societal context, but be prepared for the context to begin to talk back.

• Reliable knowledge will no longer suffice, at least in those cases, where the consensuality reached within the scientific community will fail to impress those outside.

• In a 21st century view of science, more will be demanded from science: a decisive shift towards a more extended notion of scientific knowledge, namely a shift towards socially robust or context-sensitive knowledge.

(Helga Nowotny 1999)

Photo http://ec.europa.eu/research/eurab/cvnowotny.html
[...] we are confronted with the Collingridge dilemma, implying that ethical issues could be easily addressed early on during technology design and development whereas in this initial stage the development of the technology is difficult to predict. Once the social and ethical consequences become clearer, the development of technology is often far advanced and its trajectory is difficult to change.

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• **Lesson 2:** the need to go beyond simple dichotomies between SSH research and scholarship on one hand and non-SSH research on the other in order to look for meaningful collaborations.
Case of going beyond: H2020 MAGIC

Moving to Adaptive Governance In Complexity: Exploring the Nexus First Progress Meeting – Wageningen University – 8-10 May 2017

Overview of the Project: Where we are
Case of going beyond: H2020 MAGIC

The framing of the semiotic process as developed by Pierce

Unavoidable presence of legitimate but contrasting values
Unavoidable presence of large doses of uncertainty

C.S. Pierce

SEMANTIC
- Experience from action
- Taking action

PRAGMATIC
- External referents
- Material processes taking place in the external world

INTERPRETANT
- Decision makers determining policies
- Story-Tellers giving priorities to narratives
- Institutions

SEMANTIC
- How to observe
- What to observe
- Data and Explanations

SYNTAX
- Representations
- Models, Data & Indicators chosen using specific narratives about causality

Semiotic Process

processes experienced simultaneously at multiple scales and in multiple dimensions generating entanglements in patterns

REDUCTIONIST SCIENCE
formal representations using a scale and a dimension at the time . . .
Case of going beyond: H2020 MAGIC

Autopoietic Process

IDENTITY

APOLITICAL FRAMING
NO NATIONAL BOUNDARIES
What we want to sustain?

PURPOSES

DANGEROUS BECAUSE OF
“SEMANTIC APPROPRIATION”
Whose values count?

NEED OF TRANSPARENCY

AVOID TECHNOCRATIC APPROACHES

GOVERNANCE

Integrating policy goals
Equity/Livelihood
Coordination & Partnership
Reducing trade-offs & Building synergies

TRANSDUCE

Link to climate change
Food security, Energy security, Water security
Technological innovation & jobs

TRANSDUCE

Interaction over problems
Conceptual framework
Integrative imaginary

APPLY

SYSTEM EFFICIENCY vs Sector efficiency
Avoiding externalization

EXTERNAL WORLD

Environment & Resources
Sectors, Systems, Flows
Interwoven, Interrelated, Interdependent

CONCERNS vs FACTS

SCIENTIFIC INQUIRY

Transdisciplinarity vs conventional
Different scales and dimensions
Impossible to grasp within academia
A largely disconnected knowledge base
Unbounded definition & Uncertainty

Different meanings associated with “THE NEXUS”

BUZZWORD?

Ambiguous meaning and strong normative resonance . . .

Inexlicable links

Academia has lost its way

Slides: Mario Giampietro, UAB
• **Lesson 1:** the need to go beyond the simple policy narrative “SSH makes science more reflexive” and the many disappointments that it invariably produces.

• **Lesson 2:** the need to go beyond simple dichotomies between SSH research and scholarship on one hand and non-SSH research on the other in order to look for meaningful collaborations.
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