Eco-Social transformations: Leading principles and generative forces

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Eco-Social Transformations: Leading Principles and Generative Forces

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Zukunftsfähige Entwicklung und generative Organisationskulturen

Wie wir Systeme anders wahrnehmen und Veränderung gestalten können
.. 1 Introduction

.. 2 Eco-Social Transformations

.. 3 Leading Principles

.. 4 Generative Forces

.. 5 Conclusion
Eco-Social Transformations Modelling Sustainable Development

Pathways
Win / Win
Conflicts

Liberal Self-Determination
Economic Performance
Ecological Integrity
Social Cohesion

„4-D“ – Integrative – Systemic

(Andreas Metzner-Szigeth 2011)
Eco-Social Transformations
Industrial Innovation Cycles

I. coal & steel
II. electrical engineering & synthetical chemistry
III. (electronics) → ICT
IV. BGT  MNT

Dimensions:
- ecological
- economical
- socio-cultural
- polit.-inst.

Overlay:
- metabolism, utilization, interventions
- production, distribution, labor, value-creation
- socialization, urbanism, mobility, media, education, health
- will, decision, implementation

Problems
Regulations

(Andreas Metzner-Szigeth 2011)

https://bia.unibz.it/bitstream/handle/10863/2890/Metzner-Szigeth2011_KeyIssues.pdf?sequence=3
### Leading Principles

<table>
<thead>
<tr>
<th>strategy</th>
<th>dimension</th>
<th>focus</th>
<th>goal</th>
<th>examples</th>
<th>design</th>
<th>problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>efficiency</td>
<td>technology</td>
<td>resources</td>
<td>reduce energy and material intensities per good/service</td>
<td>drip irrigation</td>
<td>passive buildings</td>
<td>rebound effects</td>
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<td></td>
<td></td>
<td></td>
<td>LEDs</td>
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<tr>
<td>sufficiency</td>
<td>culture</td>
<td>needs</td>
<td>limit consumption of goods/services</td>
<td>car sharing</td>
<td>self-sufficient</td>
<td>inertia of habits</td>
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<td></td>
<td></td>
<td></td>
<td>no meat</td>
<td>communities</td>
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<tr>
<td>consistency</td>
<td>ecology</td>
<td>qualities</td>
<td>close cycles of material flows / energy streams out of renewable sources</td>
<td>compostable plastics</td>
<td>cradle to cradle</td>
<td>missing options</td>
</tr>
<tr>
<td></td>
<td></td>
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<td>solar + hydrogen</td>
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</tbody>
</table>

(Andreas Metzner-Szigeth 2016)
Leading Principles
Consistency
Cradle to Cradle

1. 100% Renewable Energy Use
2. Water Stewardship clean water output
3. Social Responsibility positive impact on community
4. Material Reutilization recyclability / compostability
5. Material Health impact on human & environmental

(Wikipedia 2016)
Leading Principles
Efficiency / Sufficiency / Consistency

efficiency
or ?
sufficiency
or ?
consistency

Mushrooming

Nowadays, the need to control what we eat becomes essential. "Mushrooming" is a new experience in the edible mushroom growing, adapted to home environment and recycling household waste. Household waste such as paper, newspapers, cardboards, paper towels, coffee grounds, textile, bread ...

https://pro2.unibz.it/projects/blogs/essen/author/glaborato/reunibz-it/
Generative Forces
Sustainability Science

Interdependencies
- socio-cultural
- political-economic
- psycho-social
- techno-ecological

Strategies
- effici-/ suffici-/ consist-ency
- prevention - resilience
- shapeability - governance
- internalisation extern. „effects“

Values
- peace, safety
- wealth
- happiness
- justice

(andreas metzner-szigeth 2016)
Generative Forces
Actors / Cultures / Systems

social sciences three frameworks:

- actors: origin of generative forces
- cultures: patterns in motion
- systems: evolution of structures

drivers / conditions for eco-social transformations?
Generative Forces
Actors / Cultures / Systems

actors  generative self
productive personality

cultures  innovative &
creative organizational
cultures ("medici effect")

systems  self-realization of the
human being ..
Generative Forces
Cultural Diversity +/-

encounter of cultures

„covivencia“, progress, welfare

„clash of civilizations“

„coexistence“, terrorism, wars
„A pattern of shared basic assumptions that a group has learned as it solved its problems of external adaptation and internal integration, that has worked well enough to be considered valid and therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems.“

(Edgar Schein 1985)
Generative Forces
Organizational Cultures

Artefacts
visible & audible patterns / structures
(easy to observe, difficult to decode, recognize)

Values
strategies, goals, philosophies
(articulated, documented legitimations, rationalizations)

Basic Assumptions
unconscious beliefs, assessments, attitudes, emotions that are taken for granted, as natural
(primary sources of values and actions)

(according to Schein 1985)
Generative Forces
Organizational Cultures / HSE Ladder

(Patrick Hudson 2007)
»We can think towards the future and, more important still, think backwards from the future. And by the way we perceive or even do not perceive what has not yet become reality, we take part in shaping it. Being fit for the future [future-capable] therefore means to obtain orientation not only from what actually already exists, but to be sensitive to the generative forces of the world that need suchlike awareness.«

(Hildegard Kurt: Wachsen! 2010)