

# THE VISUAL COMMUNICATION OF ECOLOGICAL LITERACY

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## Why? Context

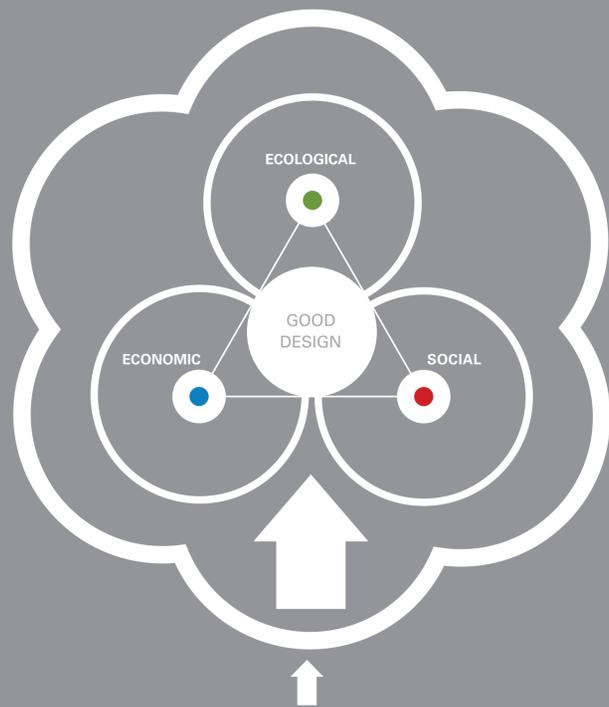
Presently humanity's ecological footprint exceeds its regenerative capacity by 30%. This global overshoot is growing and ecosystems are being run down as wastes (including greenhouse gases) accumulate in the air, land, and water. Climate change, resource depletion, pollution, loss of biodiversity, and other systemic environmental problems threaten to destroy the natural support systems on which we depend.

## What? Systems, Networks, Values

Problems cannot be understood in isolation but must be seen as interconnected and interdependent. We must learn to engage with complexity and think in terms of systems to address current ecological, social and economic problems. Images can be useful tools to help with this learning process.

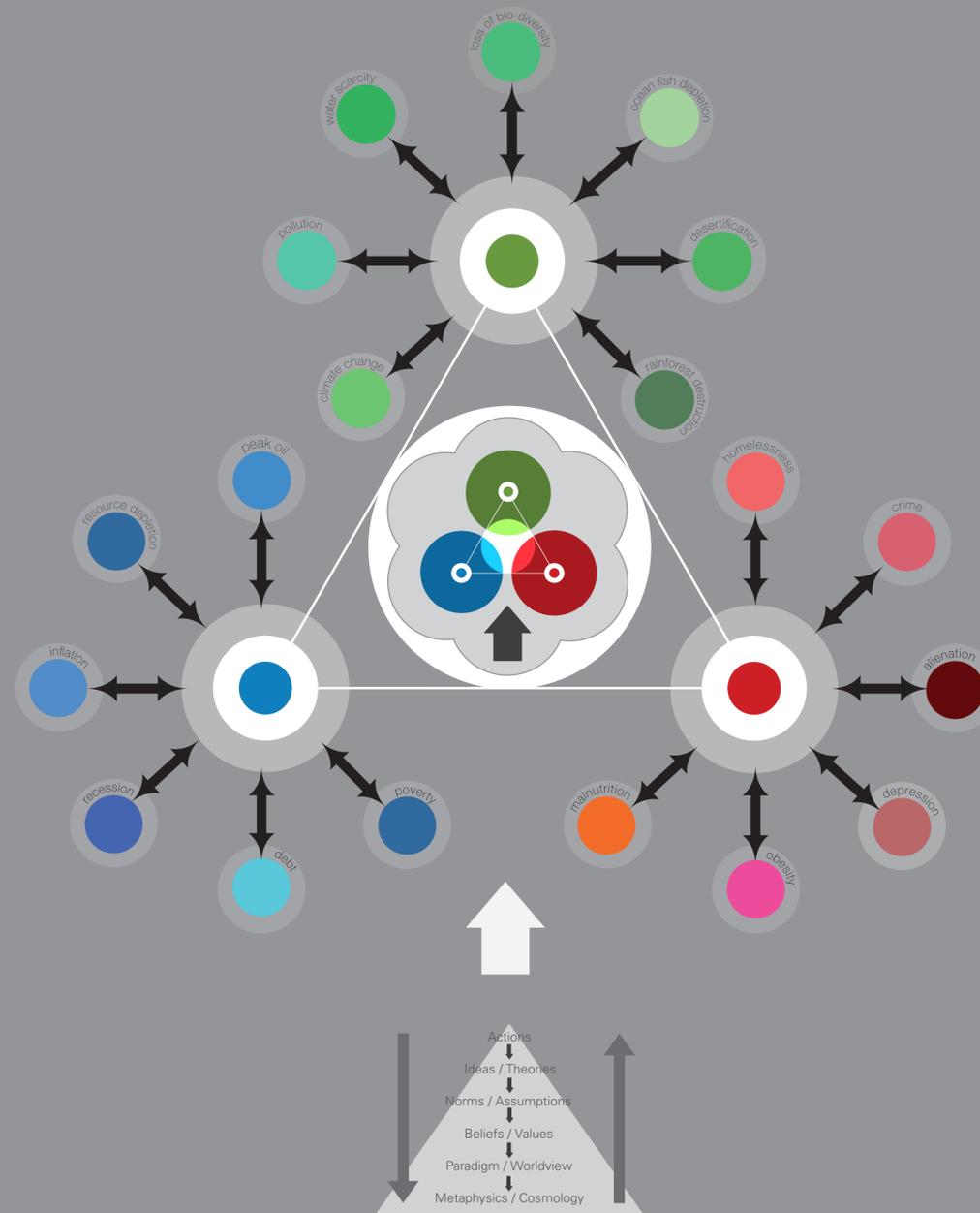
## How? Transformational Learning

The value / action gap permeates education for sustainability and is obvious in environmental coverage in the media. The gap between our ideas about what we value and what we are actually doing to address the problem is the notorious value / action gap. This project uses transformational learning to move from values to action. This approach is integrated into cycles of action research and practice based design work.



*Ecological literacy - the understanding of the principles of organization that ecosystems have evolved to sustain the web of life - is the first step on the road to sustainability. The second step is the move towards ecodesign. We need to apply our ecological knowledge to the fundamental redesign of our technologies and social institutions, so as to bridge the current gap between human design and the ecological sustainable systems of nature.*

Fritjof Capra, 2003



TRANSFORMATIONAL LEARNING

## Values, Knowledge, Skills

### A: SEEING (Perception)

An expanded ethical sensibility or consciousness

### B: KNOWING (Conception)

A critical understanding of pattern, consequence and connectivity

### C: DOING (Action)

The ability to design and act relationally, integratively and wisely.

Stephen Sterling, 2009

## Levels of Learning & Engagement

### 1st: Education ABOUT Sustainability

Content and/or skills emphasis. Easily accommodated into existing system. Learning ABOUT change. ACCOMMODATIVE RESPONSE - *maintenance*.

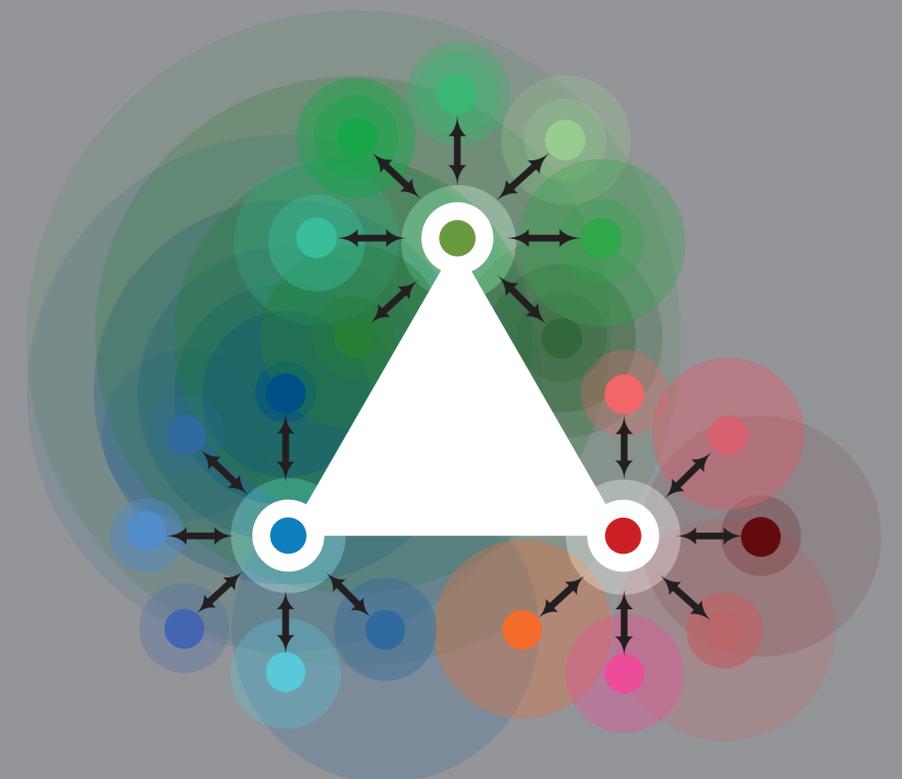
### 2nd: Education FOR Sustainability

Additional values emphasis. Greening of institutions. Deeper questioning and reform of purpose, policy and practice. Learning FOR change. REFORMATIVE RESPONSE - *adaptive*.

### 3rd: SUSTAINABLE Education

Capacity building and action emphasis. Experiential curriculum. Institutions as learning communities. Learning AS change. TRANSFORMATIVE RESPONSE - *enactment*.

Stephen Sterling, 2009



*The world is a complex, interconnected, finite, ecological-social-psychological-economic system. We treat it as if it were not, as if it were divisible, separable, simple, and infinite. Our persistent, intractable, global problems arise directly from this mismatch.*

Donella Meadows, 1982

REFERENCES  
Fritjof Capra. *The Hidden Connections*. London: Flamingo. 2003  
Stephen Sterling. *Whole Systems Thinking as a Basis for Paradigm Change in Education*. University of Bath. 2003  
Stephen Sterling. *Transformational Learning*. Researching Transformational Learning. University of Gloucestershire. 2009

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