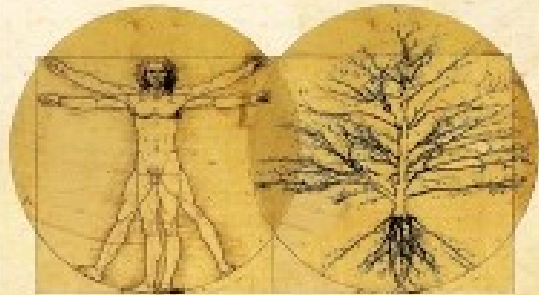


Foundations *for* Sustainability

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A Coherent Framework of Life–Environment Relations



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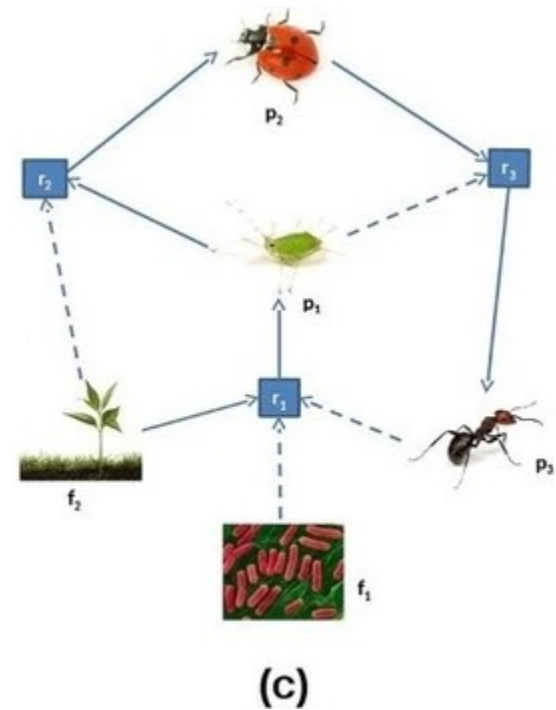
Chapter 2: Life as the basis of value

Your reaction

- 1) What is, in your opinion, the main message of Chapter 2?
- 2) What part was most confusing or most difficult to understand?

Life has a dual role of means and ends

- Closure of activity
- An individual's actions make a life and is a life



Organic farming

- How does the paradigm differ from conventional agriculture?
- How does this influence the practices that are used?



Feed the soil, and the soil will feed the plants

Barriers and proposals

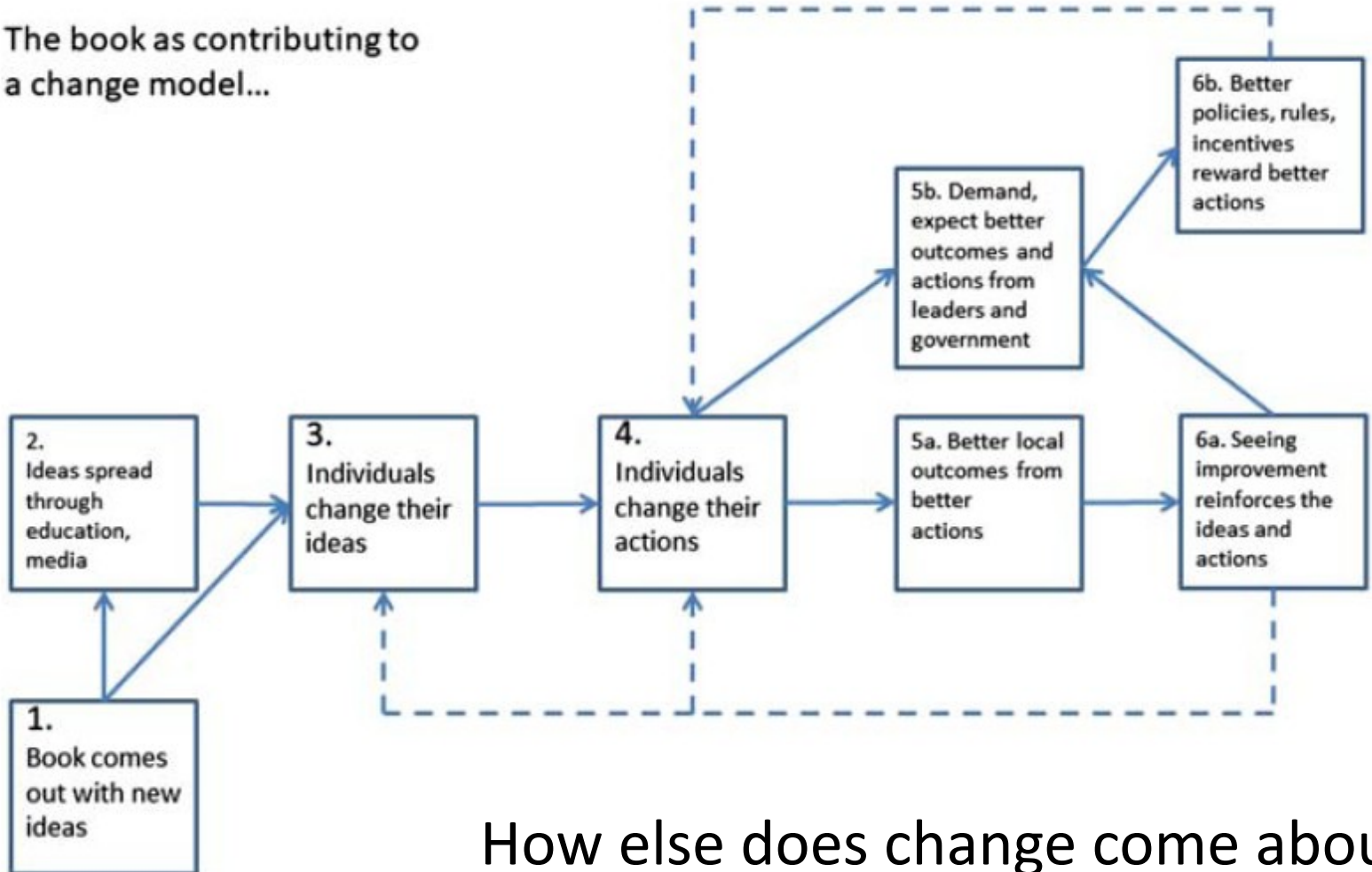
- Short term rewards
- Common enemy is systemic death
- Extend instincts beyond the boundary of the individual to include Life-support organically in our decision making

Values

- “social norms and the closely related value system highlights the interdependence of the individual sense of self and the societal system of values and norms.” p. 30
- Connective tissue of society
- Capital “Life” is used throughout the book to represent this.

Great transformations

The book as contributing to a change model...



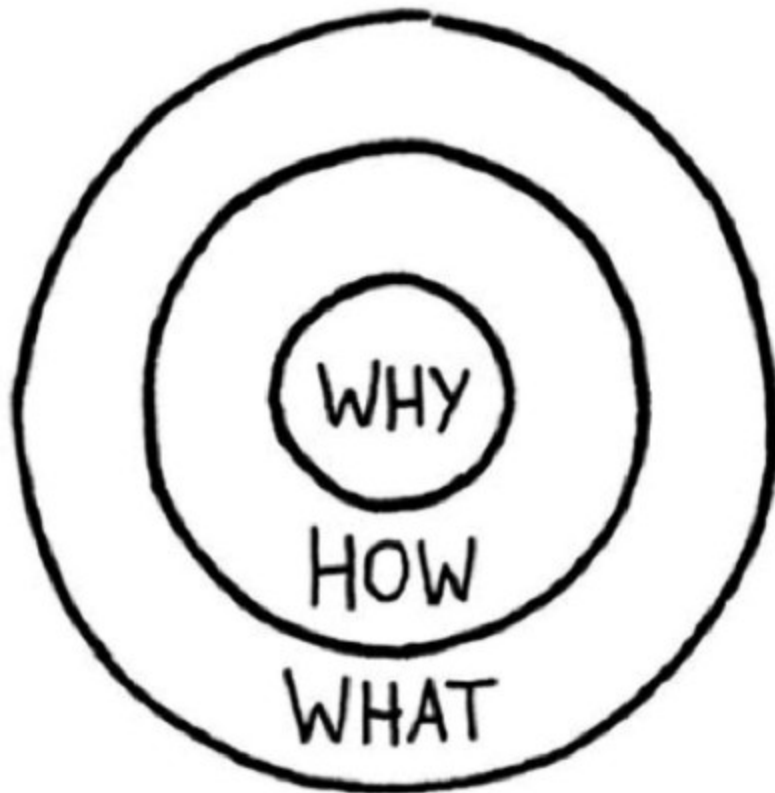
How else does change come about?

Avoiding unintended consequences

- Climate change
- Acid rain
- Geoengineering



1. Start with the end in mind



Why = The Purpose

What is your cause? What do you believe?

How = The Process

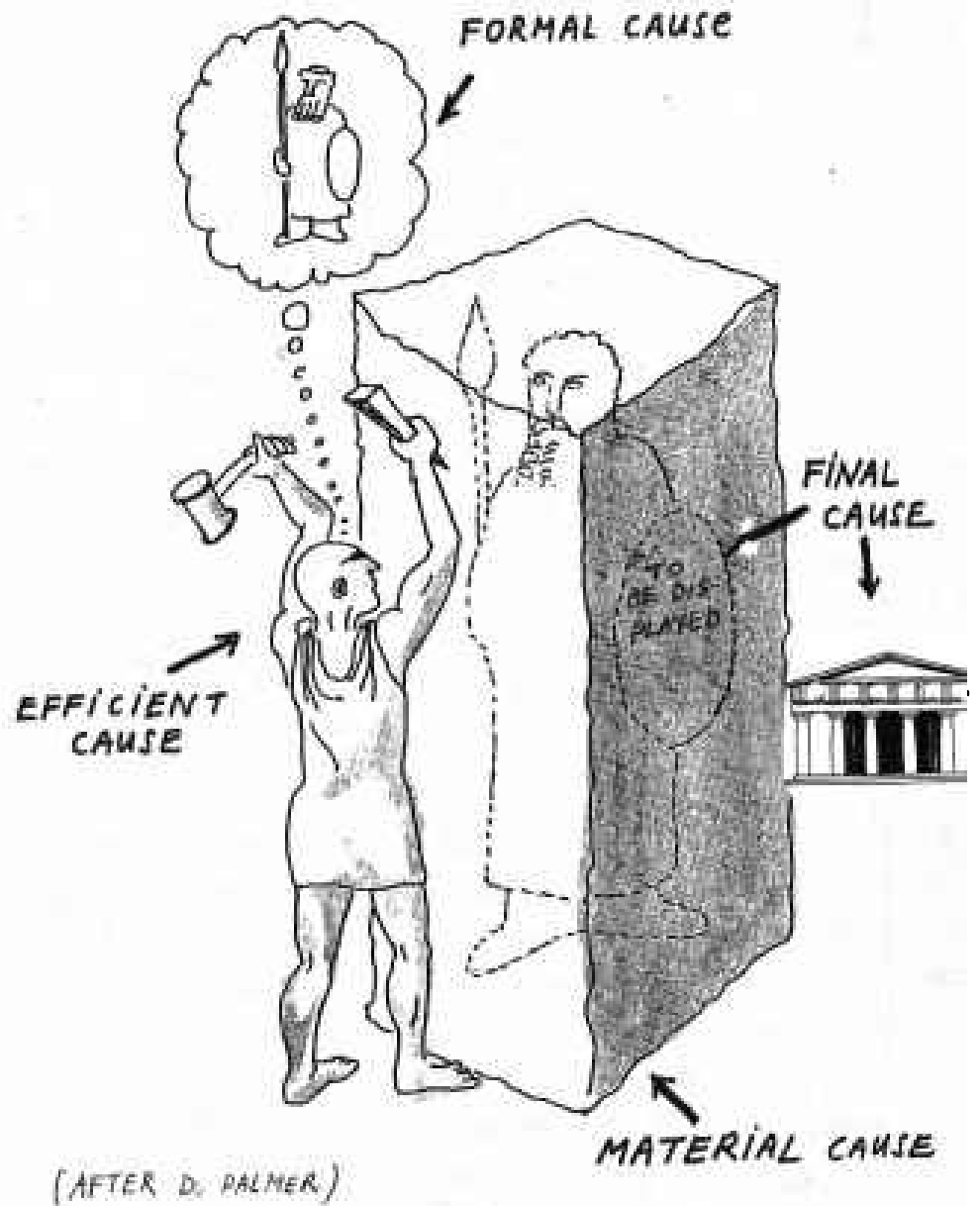
Specific actions taken to realize the Why.

What = The Result

What do you do? The result of Why. Proof.

C

- Aristotle proposed four causes:
 - **Material cause** - the matter out of which something is made
 - **Formal cause** - arrangement or form
 - **Efficient cause** - "the mover or the rest"
 - **Final cause** - its aim or purpose



2. Depict the goal and outcomes

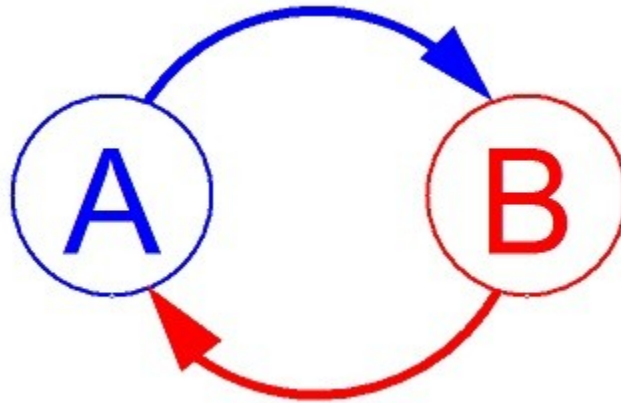
- Crises solved
- Self-regulating, regenerated and regenerative
- “An ensemble grows rich on an environment that the ensemble itself made rich.” (Jacobs, 2000, p. 60)



- What if degradation is the abnormality and clean environment are achieved by basic natural Life systems
 - A tree in the forest makes the forest better
 - Why can't a human in a city make the city better?

3. Work backwards to realize the ideal outcome – the how that leads to it

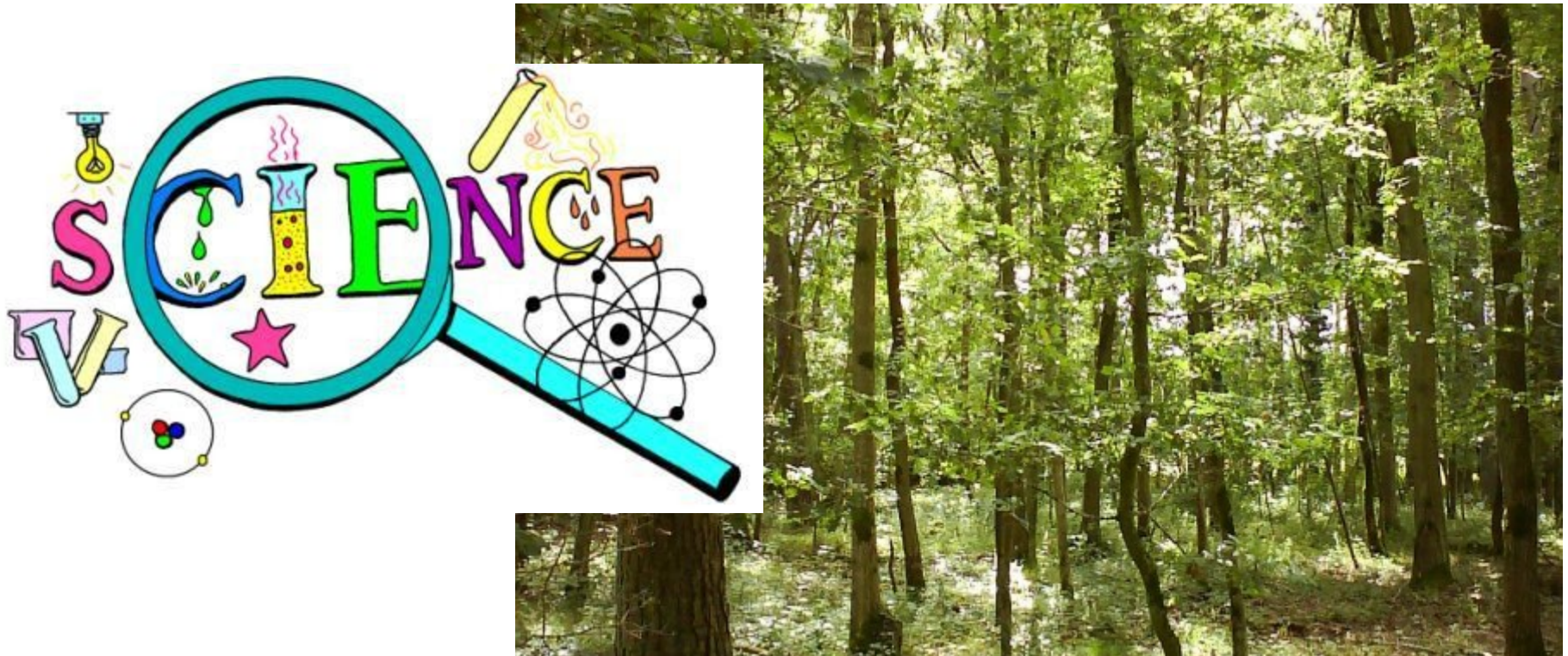
- Take advantage of positive feedbacks



– Change comes from moving to a new configuration

4. The why that motivates the how

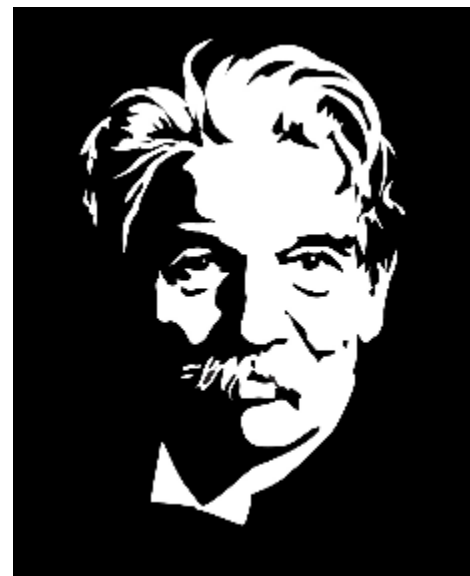
- Shared value of life as the center of ethics
- A science to serve Life



Life as the basis of value

- True values are carried out in everyday
 - no wasted effort,
 - no cross purpose,
 - no conflict of interest

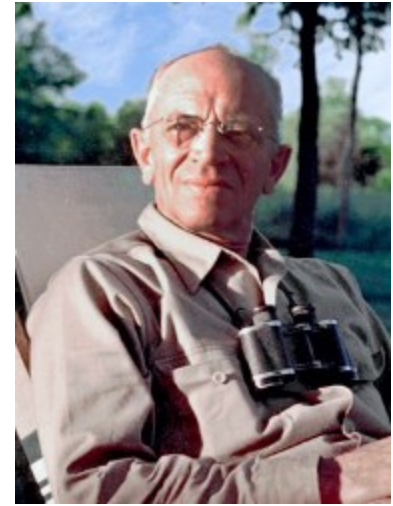
- “Once a man has experienced [reverence for life] ... He carries his morality within him and can never lose it, for it continues to develop within him. He who has never experienced this has only a set of superficial principles.” (Schweitzer 1969, pp. 115–116)



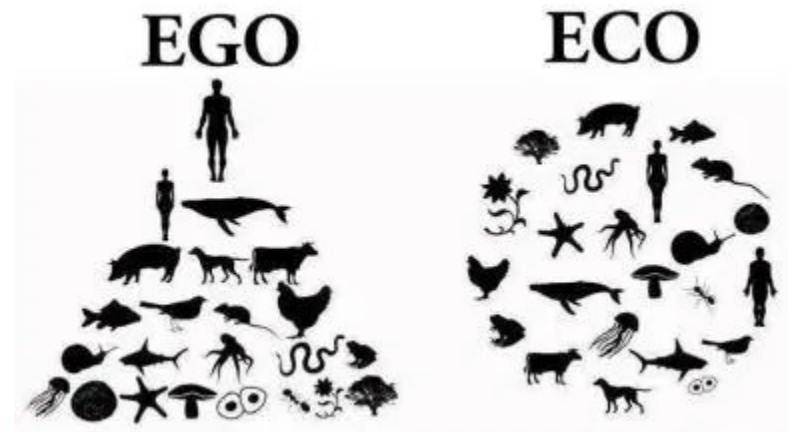
Albert Schweitzer

Land Ethic

- “A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise.”
(Leopold 1949, pp. 224–225)

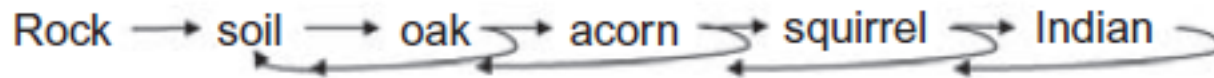


Aldo Leopold



Ecological Cascades

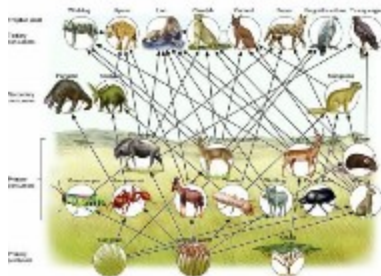
Thinking like a mountain



Recycling – Indians... and Astronauts

Historical Ecological Landmarks

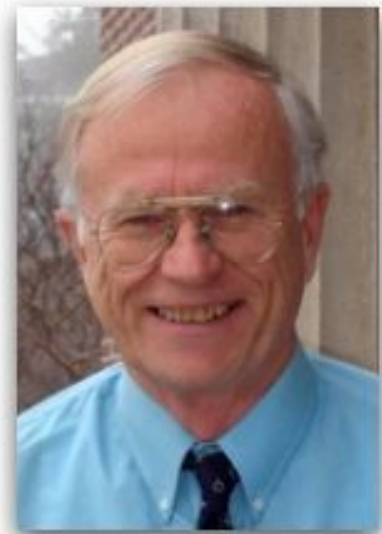
- Ecology—Haeckel (1866)
- Ecosystem—Tansley (1935)
- Trophic-dynamic aspect of ecology—Lindeman (1942)
- Diversity and stability relationships—Elton (1958) & MacArthur (1955)
- Strategy of ecosystem development—EP Odum (1969)
- “Though the organisms may claim our prime interest, when we are trying to think fundamentally, we cannot separate them from their special environments, with which they form one physical system.” (Tansley 1935, p. 299)



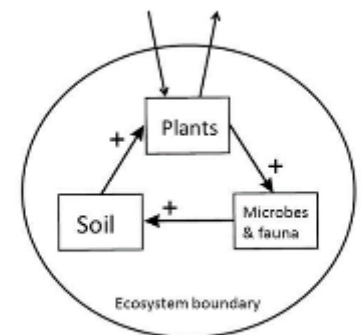
Ecological metaphysic

- Learning from nature
- Causal understanding – configuration of processes
- Application to socio-economic systems

- “It seems not unreasonable to assume that many of the same dynamics are at work in economics as structure ecosystems, and that, over “deep time,” nature has solved many of the developmental problems for ecosystems that still beset human economies.” (Ulanowicz 2009)

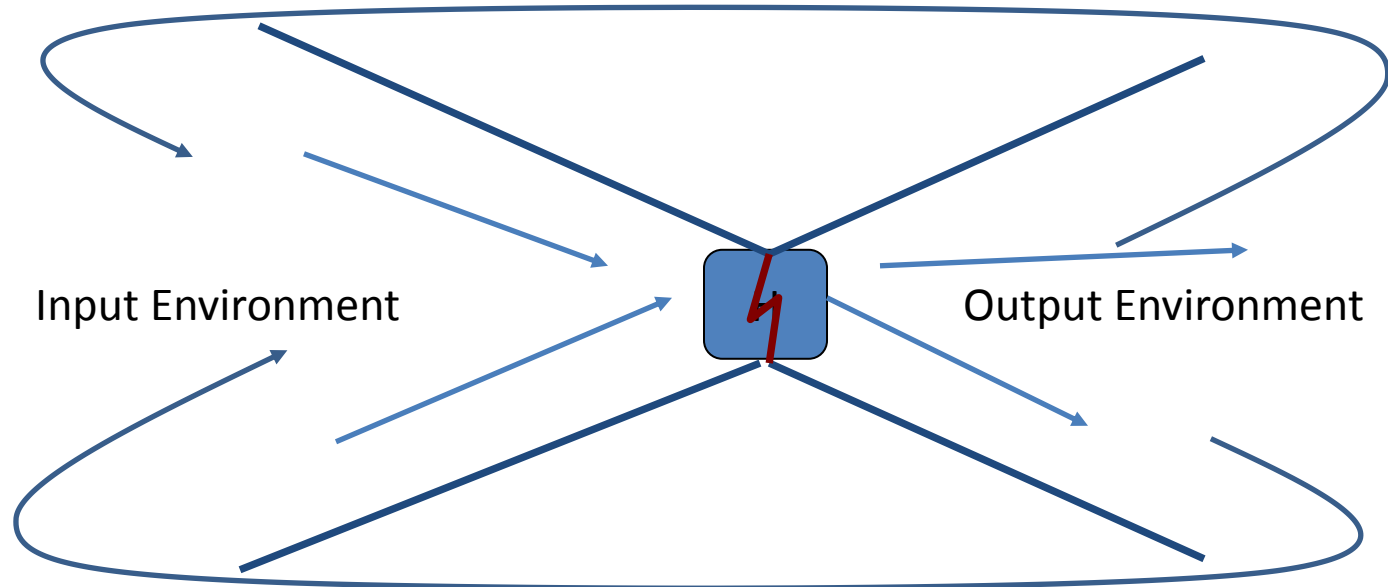


Robert Ulanowicz



Holism and cycles of life

- 1) Schweitzer (1969): “How fantastic that in other existences something comes into being, passes away again, comes into being once more, and so forth from eternity to eternity!”
- 2) Leopold (1993): “In the soil grows an oak, which bears an acorn, which feeds a squirrel, which feeds an Indian, who ultimately lays him down to his last sleep in the great tomb of man to grow another oak. . .”
- 3) Ulanowicz (2009b): “The action of autocatalytic feedback tends to import the environment into the system or, alternatively, embeds the system into its environment.”



Implications and next steps

- This universal life–environment cycle also brings a unifying quality to all humans across all races, nations, and ethnicities, and between all life forms.
- Ecosystems must be treated as fundamental units of study, and units of Life, and cannot be treated as epiphenomena explainable by dynamics of interacting subset parts (p. 46)

Discussion questions

- <https://vimeo.com/212281432>
- Deep ecology – the rights of nature
- A bug's life – Gregor Samsa
- Is it realistic/possible to set life as the basis of value
- Can you give an example where a problem was solved at the root cause?

Discussion questions

- A goal is not happiness but wholeness: to have “no wasted effort, no cross purpose, no conflict of interest”
- Why do we not see the cycles of life?
- How can we engage in “ecosystem” studies?
- Other questions?