

Emergent Information. When a Difference Makes a Difference...

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1 Information concepts

	context	nature	investigation
hard science	<i>objectivism</i>	<i>materialism</i>	<i>externalism</i>
	object of action	material object	objective study
soft science	<i>subjectivism</i>	<i>idealism</i>	<i>internalism</i>
	subjective action	ideational action	interpretive action
third culture	<i>subject-object dialectic</i>	<i>emergentist materialism</i>	<i>perspectivism</i>
	a third mediating the relation between subjects and objects	ideational assignment making a material sign emerge	shift of perspectives on both interior and exterior semiosis

2 Unified Theory of Information (UTI) approach

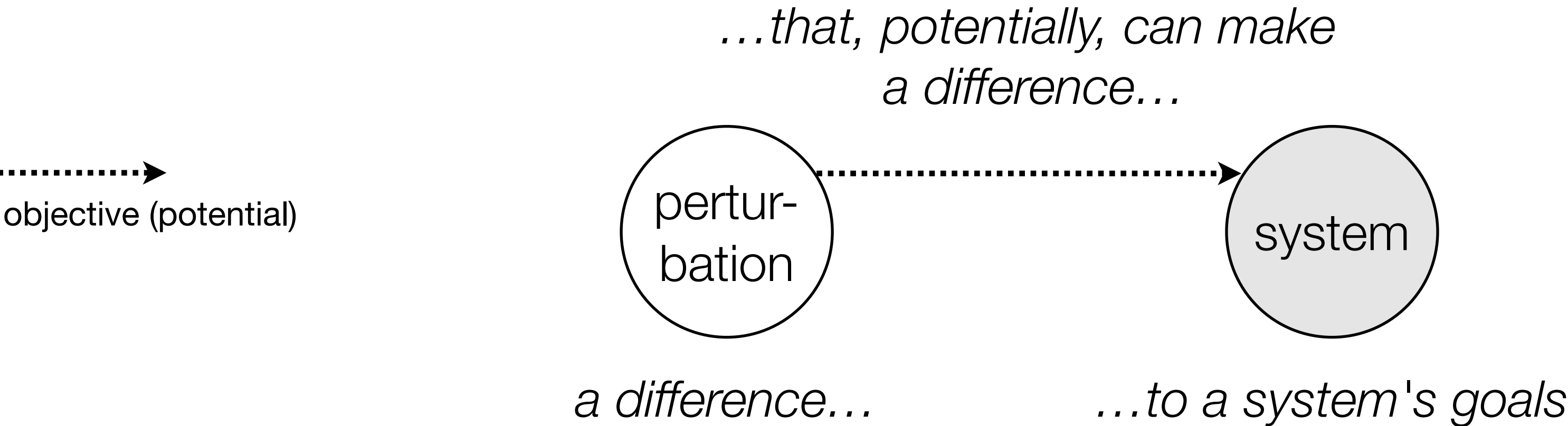
	context	nature	investigation
UTI approach	<i>subject-object dialectic</i>	<i>emergentist materialism</i>	<i>perspectivism</i>
	co-extension of self-organisation and information		

2 Unified Theory of Information (UTI) approach

	context	nature	investigation
UTI approach	<i>subject-object dialectic</i>	<i>emergentist materialism</i>	<i>perspectivism</i>
	mediation of the interaction of self-organising systems (subjects) with their environment (objects)	the (ideational) build up of order, as well as the (material) order itself, standing for some perturbation in reference to a system's goals	shift of perspectives on both the (interior) emergence of, and the (exterior) emergent, structure, state or behaviour

2.1 New semiotic triangle

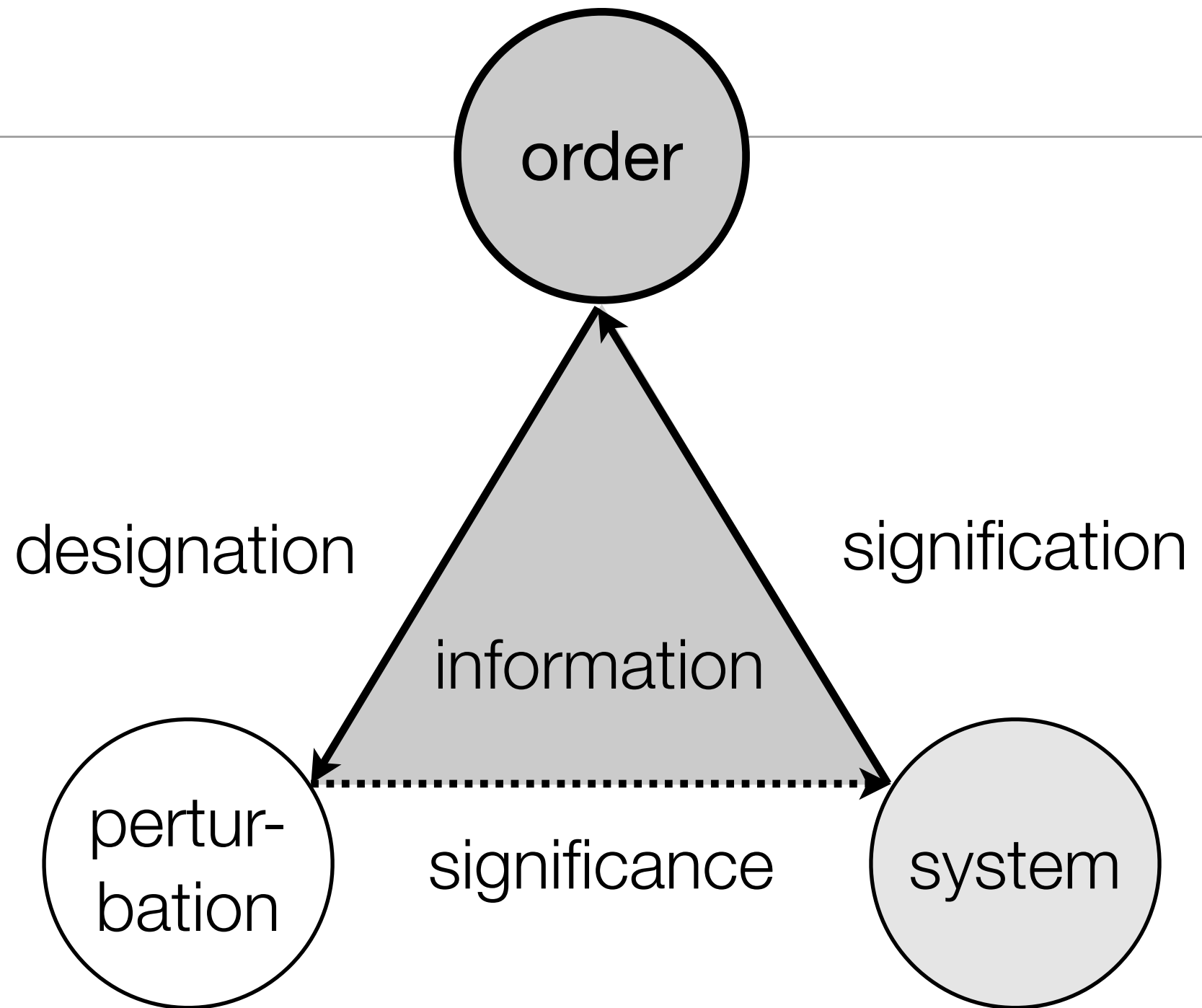
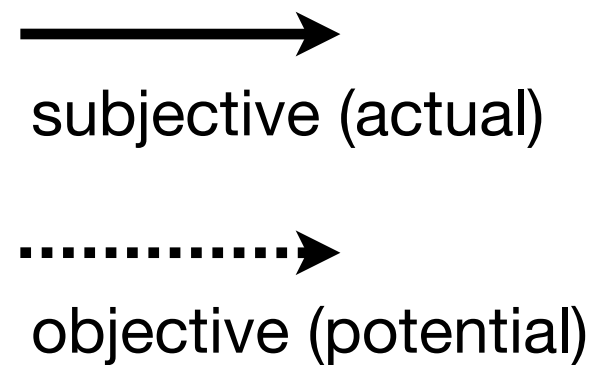
in system theoretical terms



...that actually makes a difference...

2.1 New semiotic triangle

in system theoretical terms



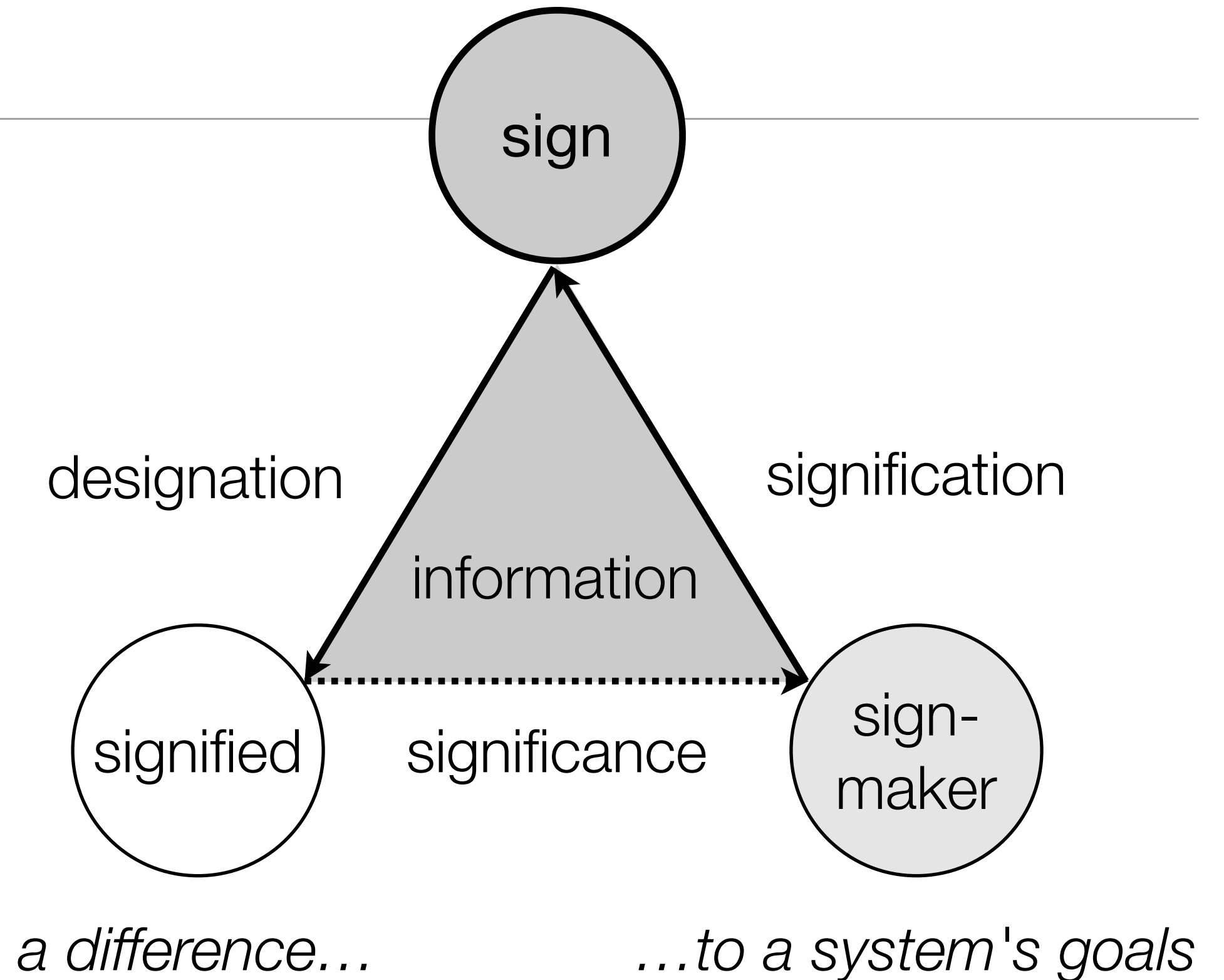
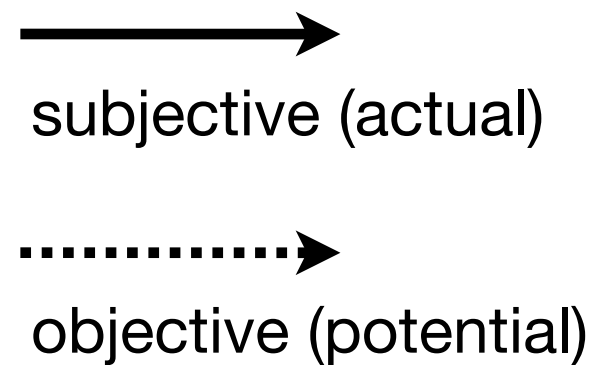
a difference...

...to a system's goals

...that actually makes a difference...

2.1 New semiotic triangle

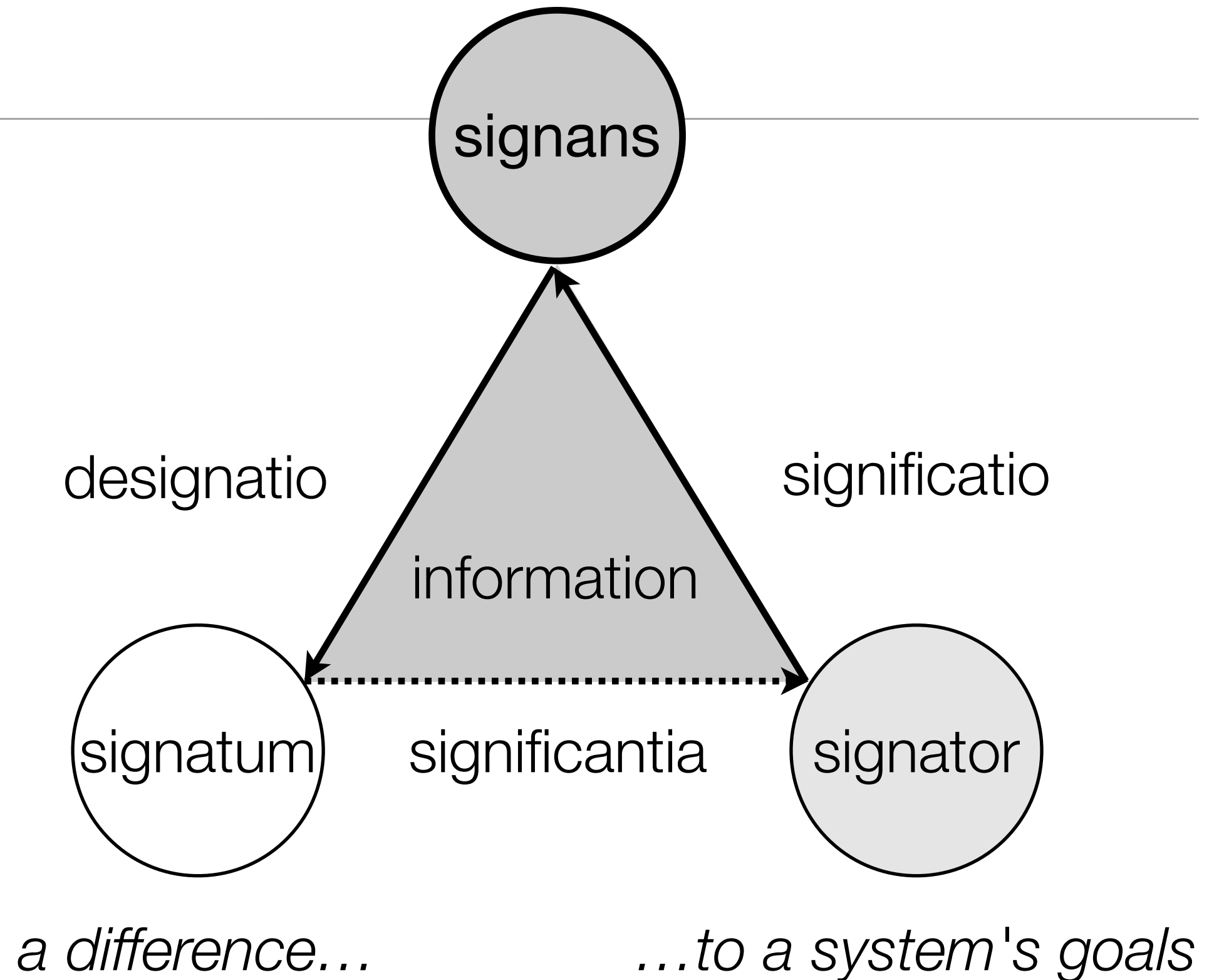
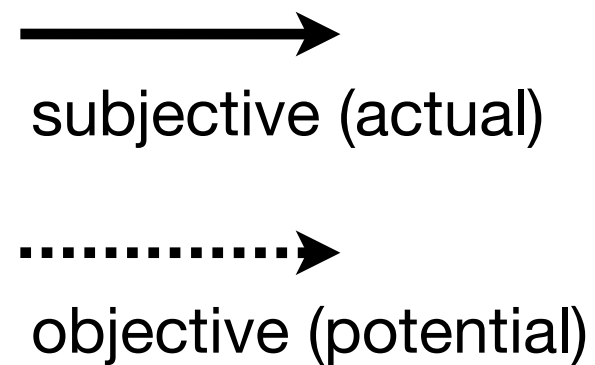
in semiotic terms 1



...that actually makes a difference...

2.1 New semiotic triangle

in semiotic terms 2



2.2 Information definition

Information I =def. relation such that

(1) the – epistemic – order O built up spontaneously (sign; signans)

(2) stands for the – ontic – perturbation P (signified; signatum)

(3) indicating – praxic – significance to the system s (signmaker; signator)

2.3 Universe of information

information capabilities in...	material systems: pattern- formation ability	living systems: code-making ability	human systems: sense- constituting ability
individual elements: cognisability	reflectivity	psyche	consciousness
interaction of elements: communicability	connectivity	signalability	languageability
integration of elements: co-operability	cohesiveness	organic coherency	communitariness

3 Consequences

- the cosmos is populated by a variety of informational agents of the same kind and of different kinds; they are related according to
 - their origin (lineages) and
 - a contingent encompassing architecture (encapsulation)

3 Consequences

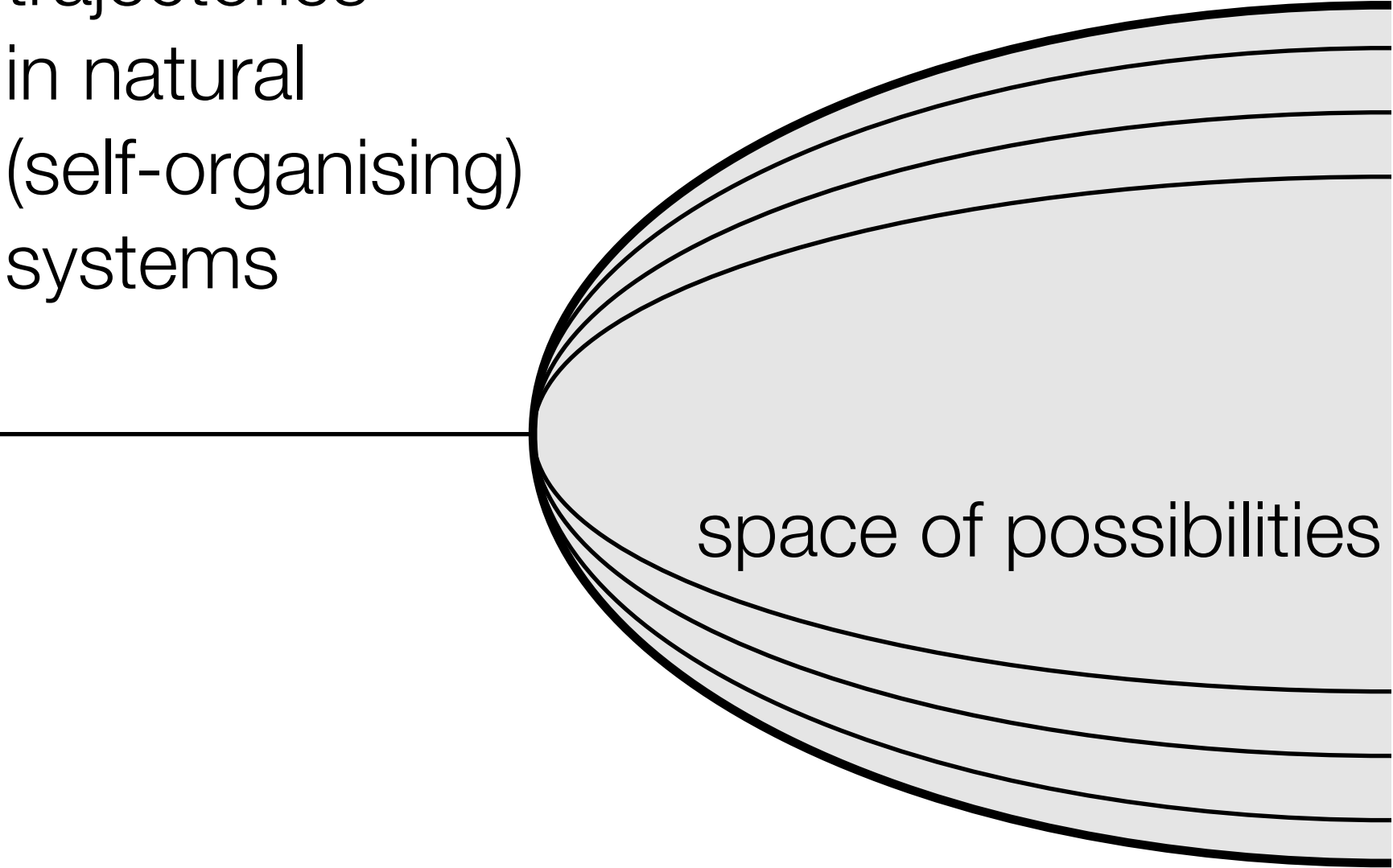
- each stage of information generation/utilisation has a preceding one that builds the foundation from which it emerges in the course of evolution (necessary but not sufficient condition)
- each layer of information generation/utilisation rests upon a lower one that builds the foundation from which it emerges along the hierarchy (necessary but not sufficient condition)

3 Consequences

- a sustainable reconstruction of world society needs efforts in the generation and utilisation of information in order to reduce frictions in the overall organisation of systems comprising our world

3.1 Computing?

trajectories
in natural
(self-organising)
systems



*less-than-strict
determinism*

space of possibilities

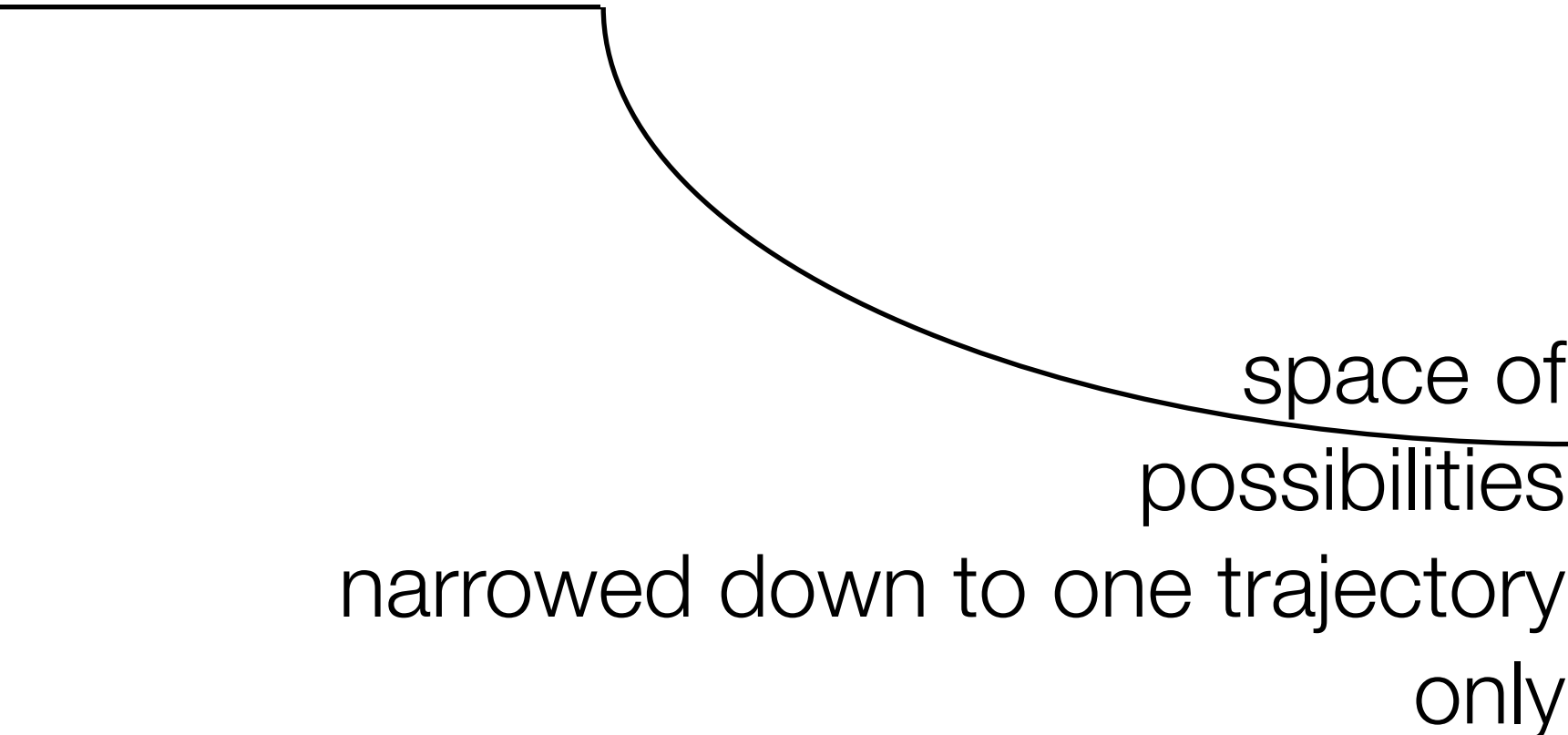
space of
impossibilities

3.1 Computing?

trajectories
in mechanical
(artificial)
systems

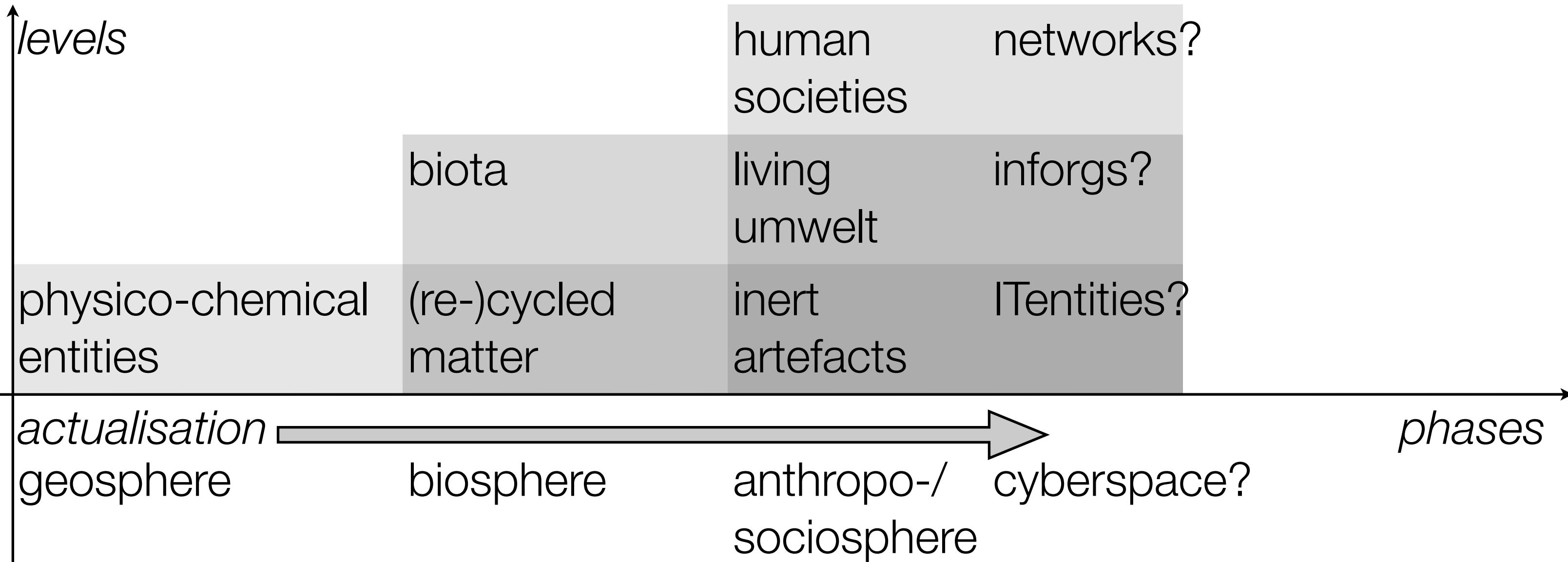
space of
impossibilities

*strict
determinism*



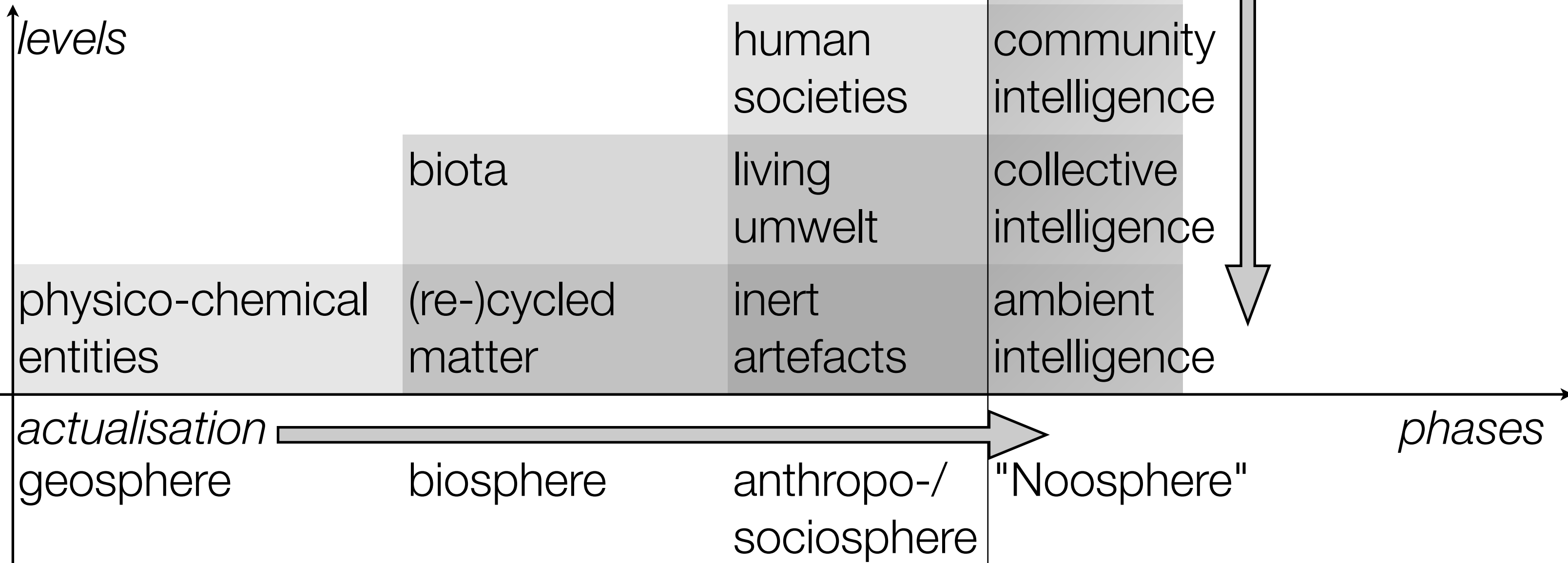
3.2 Global Brain?

meaningless technology
in the age of global challenges



3.2 Global brain?

meaningful technology –
a technology that makes a difference



Thanks!

links:

- International Society for Information Studies (is4is.org)
- European Meetings on Cybernetics and Systems Research (emcsr.net)

further readings:

- Twenty Questions About a Unified Theory of Information, Emergent Publications 2010, 152 pp.
- Emergent Information, World Scientific 2011 (in progress)
- online papers: hofkirchner.uti.at

