

Four Ways of Thinking in Information

Towards a New Science of Information

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1 Science of Information

↑ general

philosophy

real-world sciences

formal sciences
(logics, mathematics)

engineering, applied or technological sciences as well as arts (e.g. computer and information science)

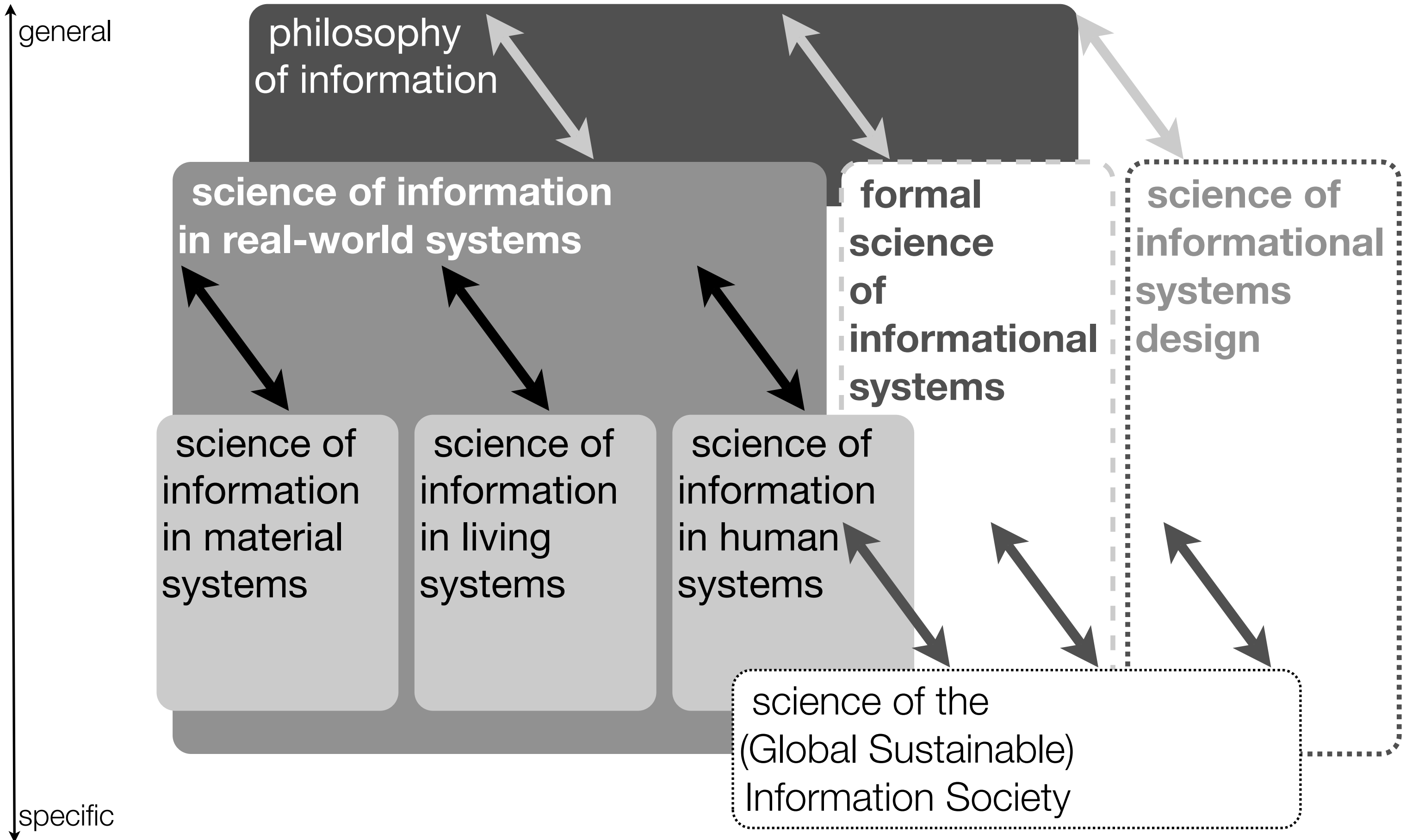
natural sciences
(physics incl. cosmology, chemistry, biology, part of psychology, etc.)

social and human sciences

science in the Information Society

***thinking in complexity
as transdisciplinary tool***

↓ specific



2 Ways of thinking in information

2.1 Ways of thinking

2.2 Capurro's Trilemma

2.3 Information concepts

2.1 Ways of thinking

ways of thinking	relationship between lower and higher complexity	unification or diversification
reductionism	reduces higher complexity to lower complexity	unity at the cost of higher complexity
projectivism	projects higher complexity onto lower complexity	unity at the cost of lower complexity
disjunctivism	disjoins higher complexity from lower complexity	diversity at the cost of unity
integrativism	integrates higher and lower complexity (as well as differentiates higher and lower complexity)	unity through diversity

2.2 Capurro's Trilemma

Capurro's Trilemma	information terms...	problem
synonymity/ univocity	... share the same meaning	false
analogy	... possess similar meanings	what is the standard of comparison?
equivocity	... possess different meanings	Babel
historical and logical account	... reflect a specification hierarchy that resembles the becoming	never-ending process of defining and refining

2.3 Ways of thinking in information

information concepts	praxiological aspects	ontological aspects	epistemological aspects
synonymism (reductionism)	objectivism: object of action	materialism: material object	externalism: objective method
analogism (projectivism)			internalism: any interpretative action
equivocalism (disjunctivism)	subjectivism: subjective action	idealism: immaterial action	
historical and logical account (integrativism)	subject-object dialectics	emergentist materialism	perspective- shifting methodology

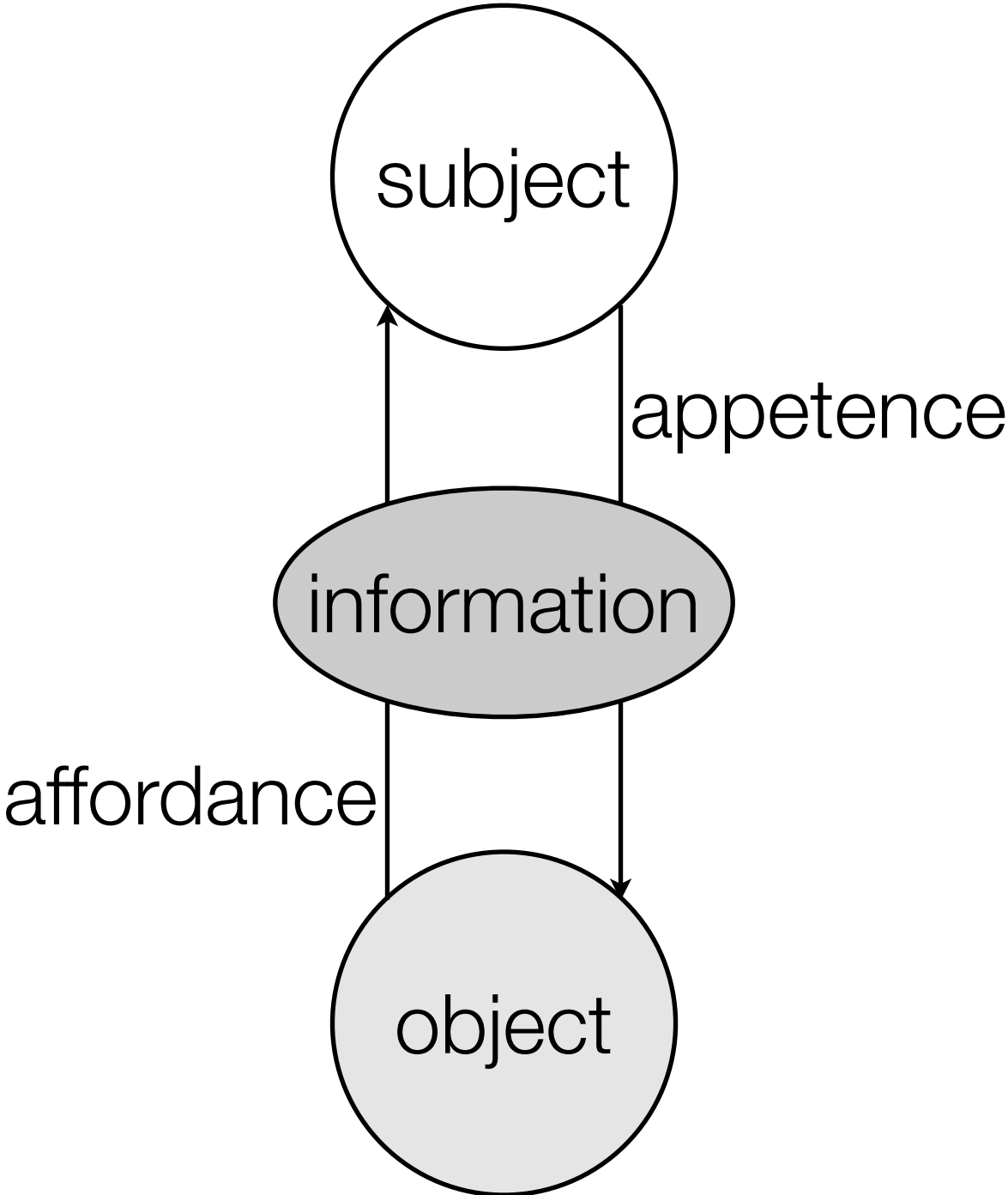
3 The fourth way of thinking in information

3.1 Subject-object-dialectics

3.2 Emergentist materialism

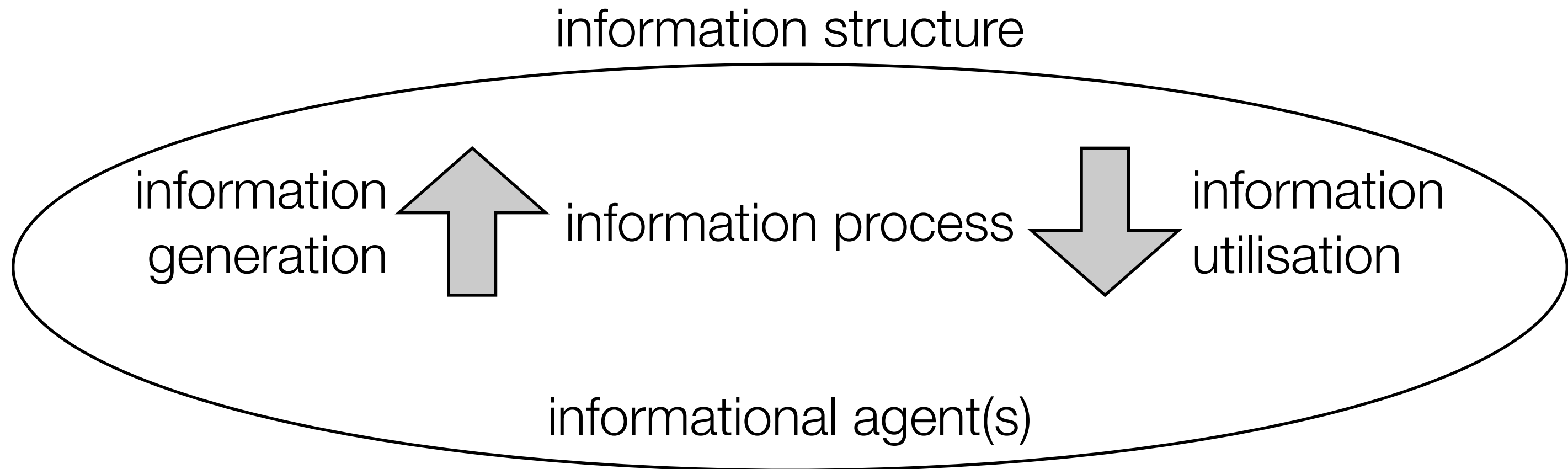
3.3 Shifting perspectives

3.1 Subject-object-dialectics



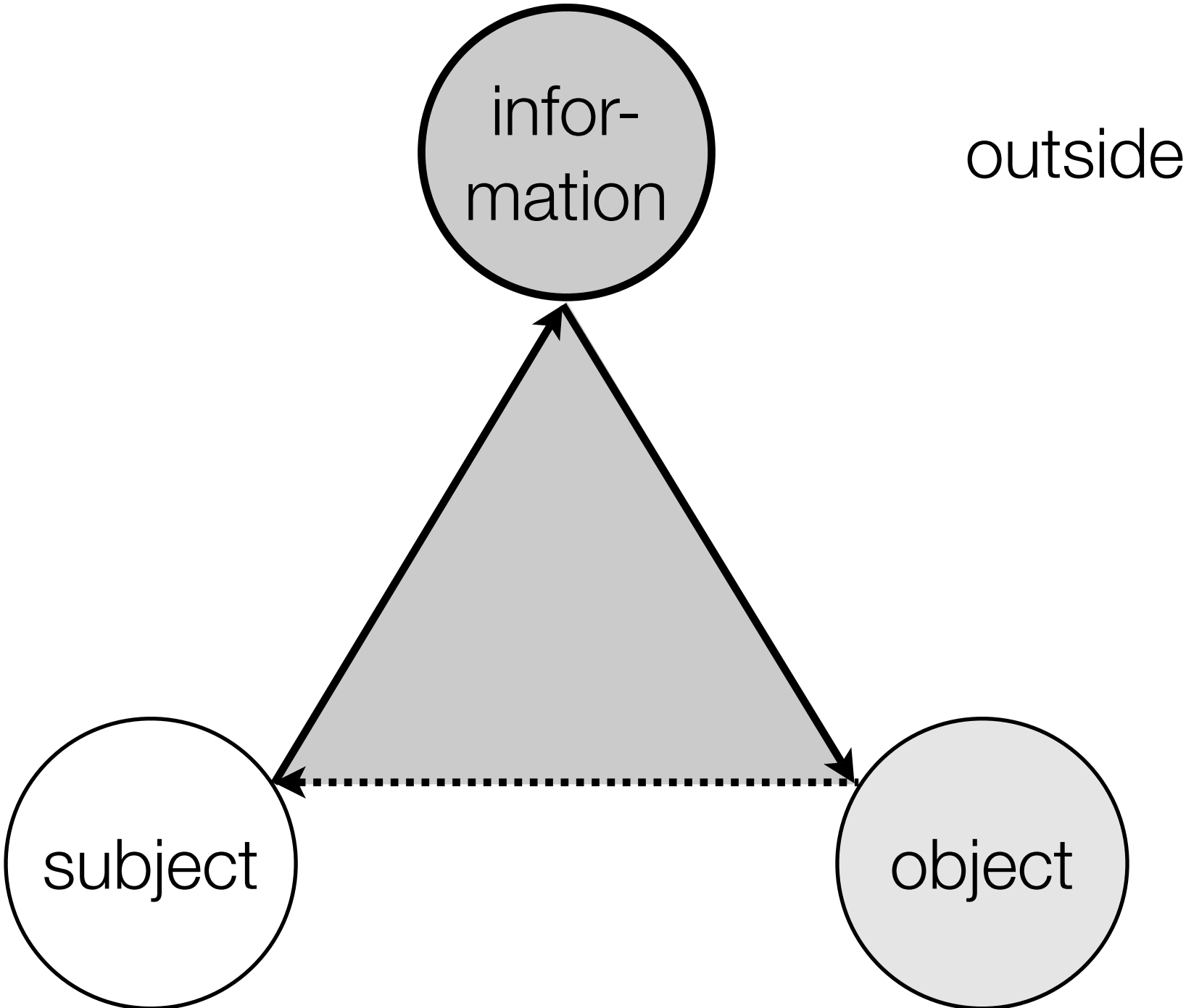
information is subjective and objective at the same time.

3.2 Emergentist materialism

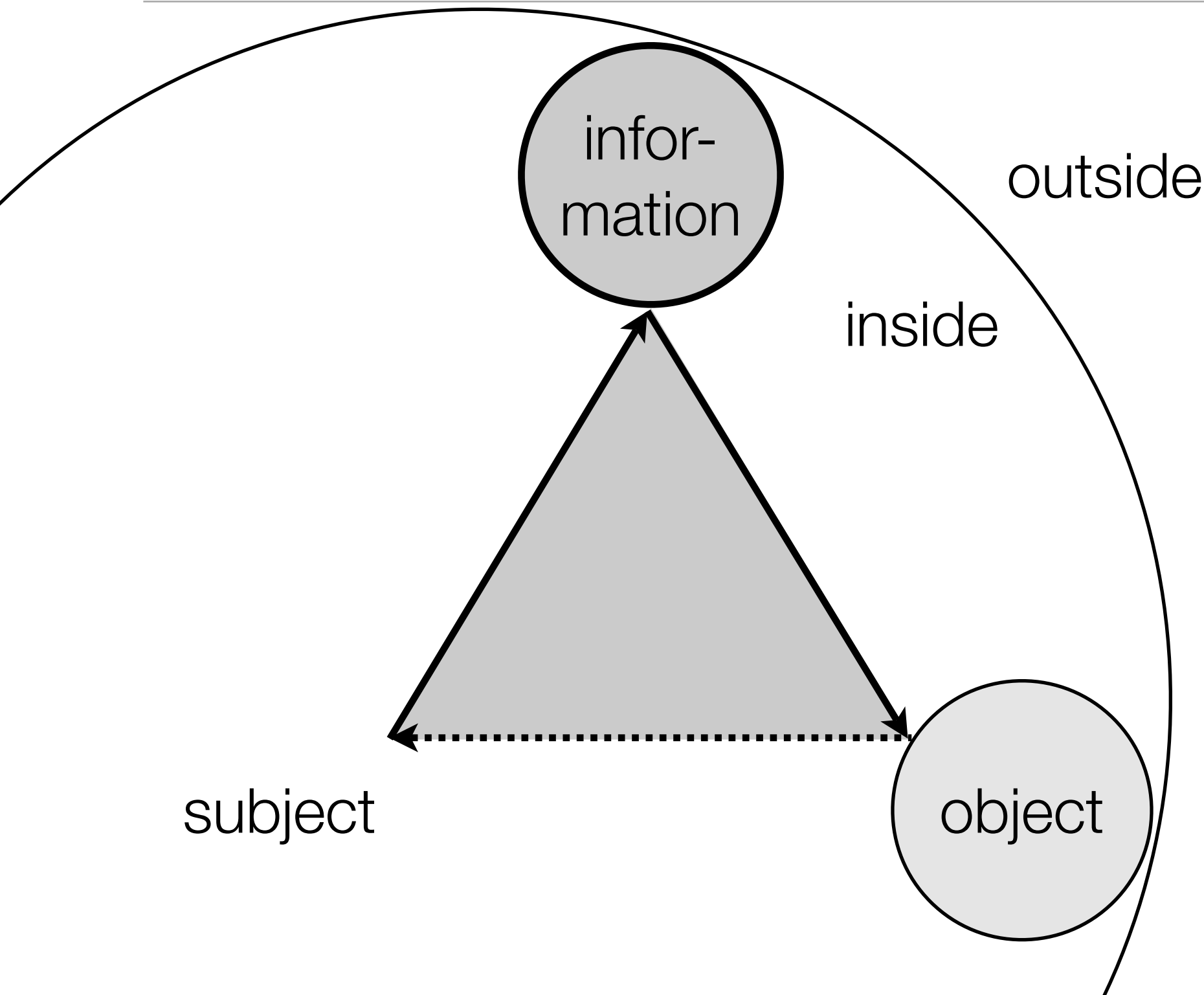


the information structure is material in that it exerts pressure through downward causation on the informational agent(s); it emerges from the information process driven by the informational agent(s).

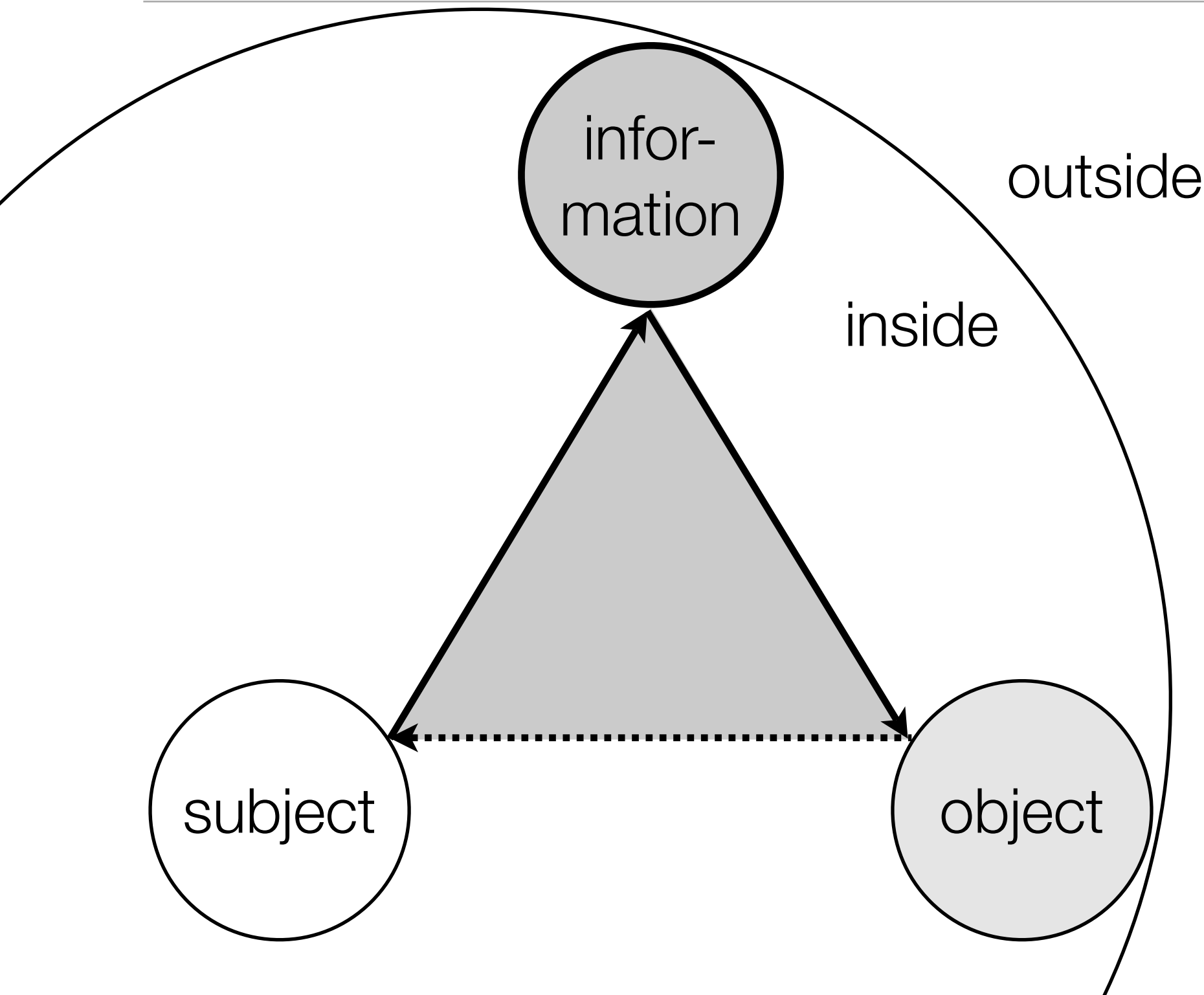
3.3 Shifting perspectives



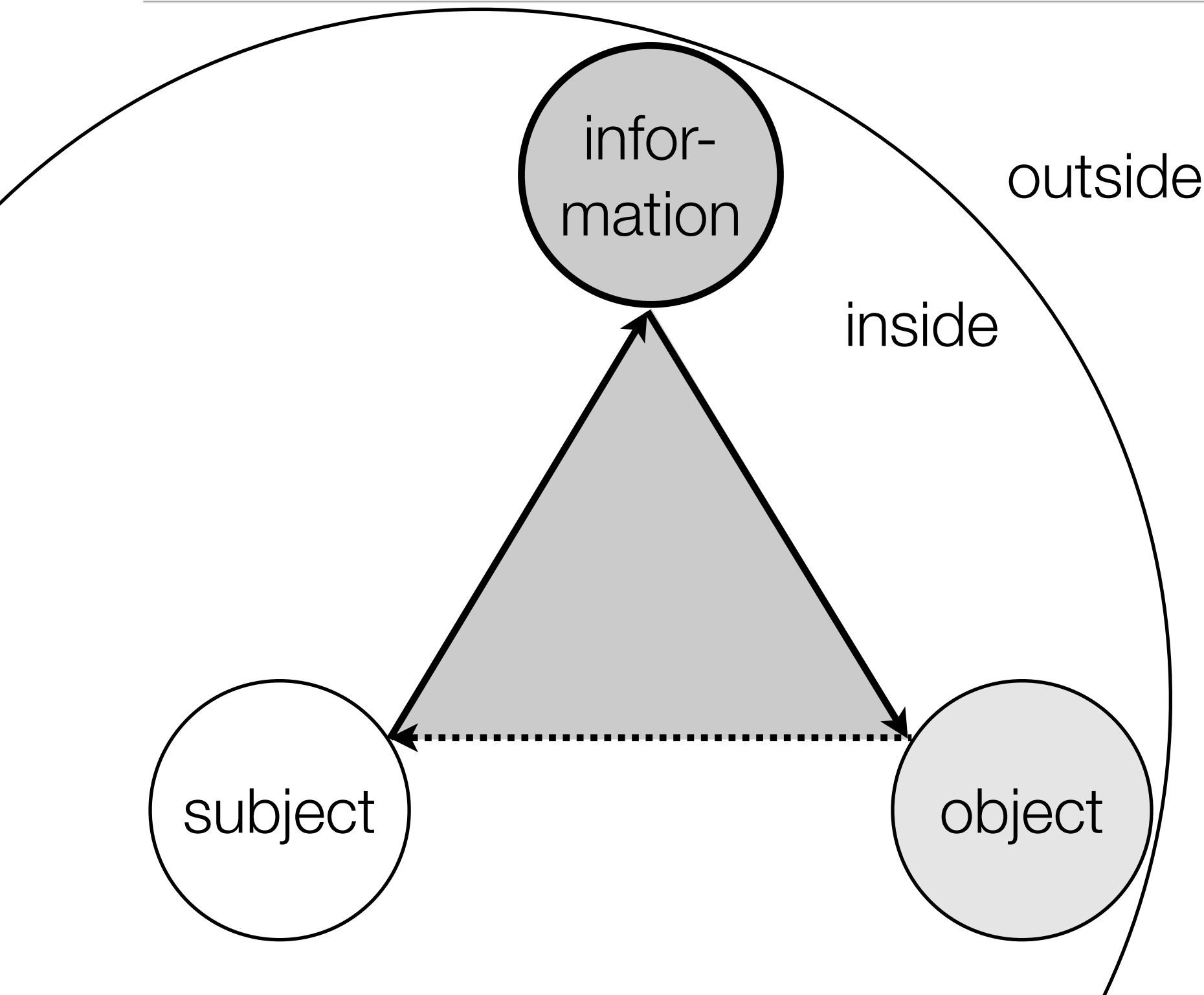
3.3 Shifting perspectives



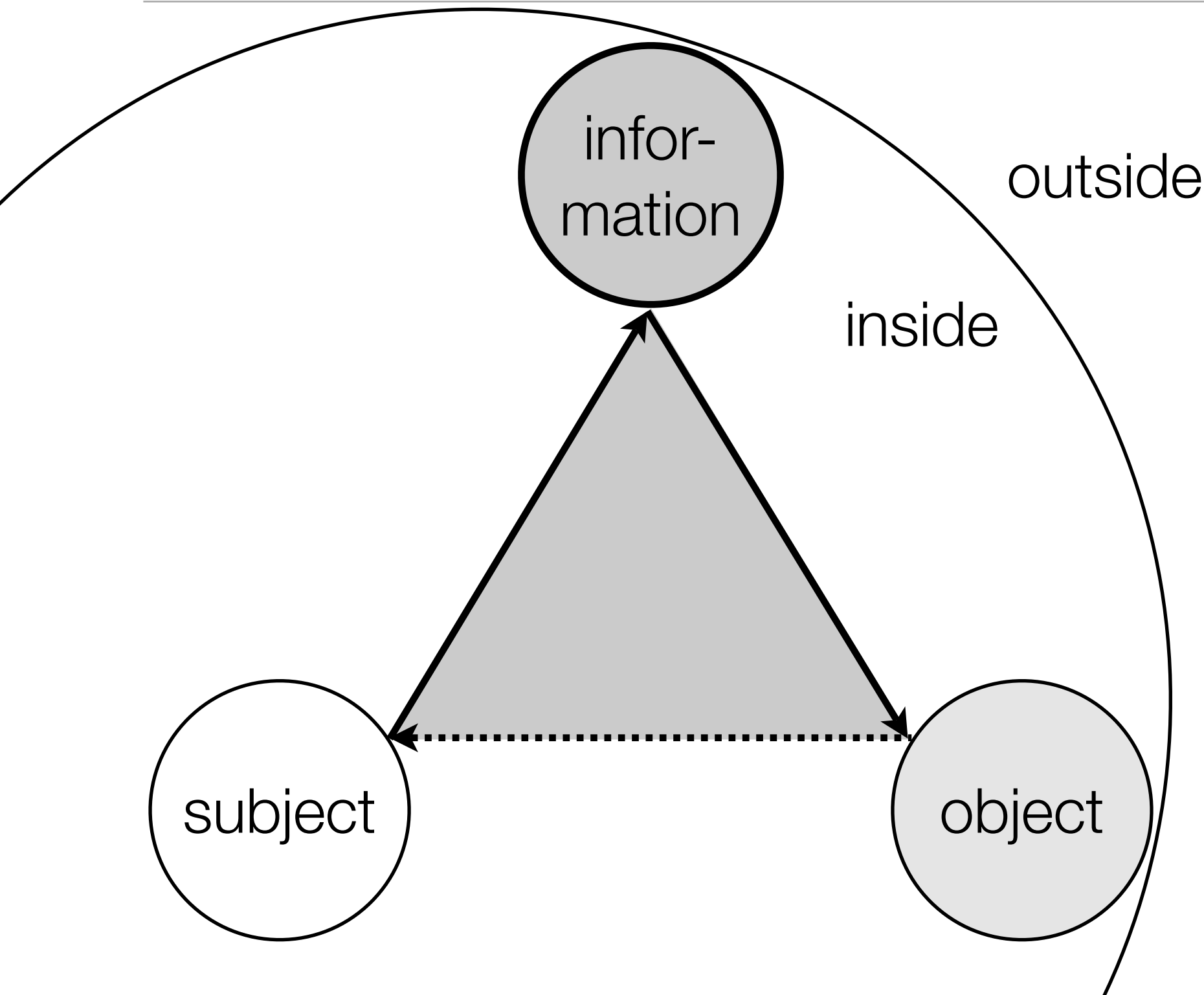
3.3 Shifting perspectives



3.3 Shifting perspectives



3.3 Shifting perspectives



information can be viewed from either outside or inside and needs to be viewed from both points of view.

Reading

just published (2010):
Emergent Publications, Litchfield Park, Arizona, U.S.
<http://www.isce.com>
(discount will be given for each order)



Twenty Questions About a Unified Theory of Information

*A Short Exploration into Information from a
Complex Systems View*

Wolfgang Hofkirchner

Thank you!