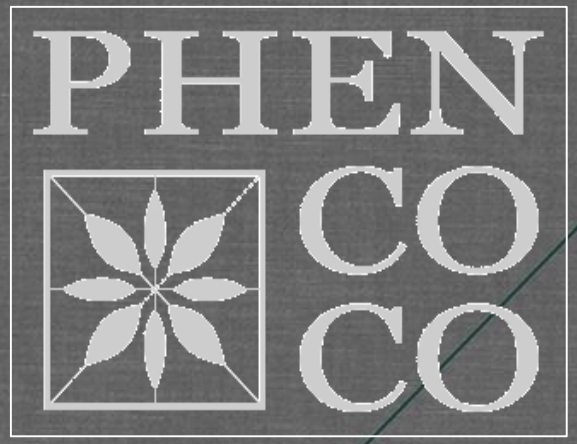
Welcome to
PHENOMENOLOGY • COGNITION • COMPUTATION



Welcome to Q1.2
The **COMPUTATION** Workshop

Program for Q1:

Q 1.1	COGNITION	DONE
Q1.2	**COMPUTATION**	**TODAY**

Please think about your favourite time:

Q2.1	*PHENOMENOLOGY*	*WHEN?*
		05.04.2014
		12.04.2014
		19.04.2014

PHEN CO CO

Workshop Invitation Q2/2014

Program for Q2:

Q2.1 Phenomenology Beginning of April14
Qualia, ..., Nage, Jackson, Husserl, Heidegger, ... - (Denis, Auris)

Q2.2 Mind & Language May 2014
Cognitive Psychology & Linguistic - (Denis)
Neurolinguistics, Primates, PhilOLanguage, Davidson, Tomasello - (Anna)

Q2.3 PCC - Selfdefinition June 2014
Talking about Questions that interest all of us and the PhenCoCo Proposals

Q3.1 Situated Cognition July 2014
Embodiment, Enactivism, Embedded Cognition/ Mind, Extended Mind

PHEN CO CO

Today´s Pogram

1. Media/ Blog: Not online yet! We hurry...
   PhenCoCo e-mail adresses: Who wants one?? :D

2. Computation Lecture: See lecture slides

3. Discussion: More/ different moderation?
   Let us know!

4. Taking Stock/ Planning: Detailed Planning of Q2.1

   (Detailed planning of Q2.2)
   (Detailed planning of Q2.3)

   Topic Decisions for Q3.1

Workshop Q1.2
COMPUTATION

LECTURE: ON COMPUTATION

Part I: Introduction to Scientific Approaches Concerning Computation

Part II: Functionalism, Representational Theory of Mind, Computational Theory of Mind & Multiple Realisability

SPEAKER: Ralf Lipinski
Auris-Elisabeth Lipinski

RECOMMENDED READINGS: None

Background Readings: Foundations nd Introductions to Philosophy of Mind, Language, Psychiatry, Situated Cognition etc. Stanford Encyclopedia of Philosophy,
Wikipedia, gute Romane ;)

DOWNLOADS WILL BE AVAILABLE
AFTER WE ARE CLEAR ON COPYRIGHT ISSUES

PHEN
CO
CO

“On Computation“

Content:

Recap: Throughout the Presentation, Connections to Introductory Essay

Part I: Introduction to Scientific Approaches Concerning Computation

Part II: Functionalism, Representational Theory of Mind, Computational Theory of Mind & Multiple Realisability

PHEN CO CO

Sub-Topics

Part I: Introduction to Scientific Approaches Concerning Computation

- The Turing Legacy
- Church-Turing-Thesis (Computability)
- Philosophical Implications of the CT-Thesis
- Cybernetics (1948)
- Who killed DUALISM
- Artificial Intelligence

PHEN CO CO

Sub-Topics

Part II: Functionalism, Representational Theory of Mind, Computational Theory of Mind & Multiple Realisability

- Functionalism
- Representational Theory of Mind
- Computational Theory of Mind
- Multiple Realisability

PHEN CO CO

Part I: Introduction to Scientific Approaches Concerning Computation

“The Turing Legacy“

- Halting problem, decision problem
- Hilberts challenge
- Turing: Definitions of capabilities & capacities of computers
- …Kleene, Davis
- …MucCulloch, Pitts
- Nervous system, brain, computer
- Brains = Turing machines

PHEN CO CO

Part I: Introduction to Scientific Approaches Concerning Computation

“The Turing Legacy“

- Bio-mathamatics get a chance because of Wiener & Neumann
- Pre-computer time!
- Development of automaton:

  Input – processing - output

PHEN CO CO

Part I: Introduction to Scientific Approaches Concerning Computation

“Church-Turing-Thesis (CT) - Computability“

- Lamda (Church)
- Theoretical models for machines (Turing)
- Recursion (Gödel)

PHEN CO CO

Part I: Introduction to Scientific Approaches Concerning Computation

“Philosophcal Implications of the CT-Thesis“

- Copeland
- Maybe someday everything can be realized in form of Turing machine
- Open question: Are these processses taking place in the brain?
- Hyper computation

PHEN CO CO

Part I: Introduction to Scientific Approaches Concerning Computation

“Cybernetics (1948)“

- Transdisciplinarity
- Study of different kinds of systems
- Closed signalling loops
- Feedback, originally called „circular causal“ relationship
- Mainly for Business systems

PHEN
CO
CO

Part I: Introduction to Scientific Approaches Concerning Computation

“Who killed DUALISM“

- Descartes
- Dualism challenged in 1940´s
- McCulloch, Pitts
- Gilbert Ryle – perspective for mot researchers is „mnd as manifestation of the physical“
- Turing test ≠ Turing machine

PHEN CO CO

Part I: Introduction to Scientific Approaches Concerning Computation

“Artificial Intelligence“

- Newell, Simon, Minsky, McCarthy
- McCarthy (LISP) – memory storing data & connectedness of the processes
- Computer metaphor for the mind
- Denett – the brain is an organ that went through evolution
- Searle – syntax does not give us semnatic (Anti-AI)

PHEN CO CO

Part II: Functionalism, Representational Theory of Mind, Computational Theory of Mind & Multiple Realisability

“Functionalism“

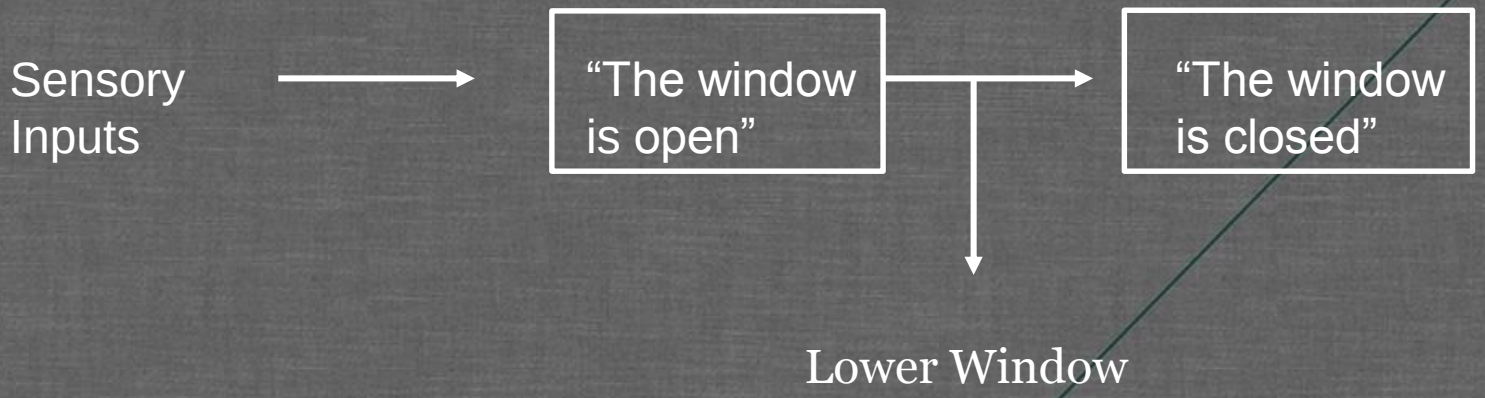
- Rejection of identity theory
- Functionalism is staunchly anti-reductionist
- Notion of total functional systems
- If functionalism is right, then every possible human mind is exhaustively describable
- Infants and adults my not have the same architechtures as earthworms, but do the worms not feel pain, because of that?

PHEN CO CO

Part II: Functionalism, Representational Theory of Mind, Computational Theory of Mind & Multiple Realisability

"Representational Theory of Mind"

Total functional systems:



“Representational Theory of Mind“

“Representational Theory of Mind“

Inference Rule - Modus Ponens:

p } q
p,
also q

In English:

where „p“ and „q“ are arbitrary sentences
“If p then q,” together with “p”
implies “q.”)

PHEN CO CO

“Representational Theory of Mind“

Comments/ Questions

What is Hyper Computation? A way of using some unsovable mathematical problems, without solving them first…

Does thought have to be in language?

What is a representation?

PHEN CO CO

Part I: Introduction to Scientific Approaches Concerning Computation

“Computational Theory of Mind“

- Hilary Putnam 1961
- Views resurfacing in analytic philosophy
- …

PHEN CO CO

Part II: Functionalism, Representational Theory of Mind, Computational Theory of Mind & Multiple Realisability

“Multiple Realisability“

“SOURCES“

- The Oxford Handbook of Philosophy of Mind
- Charles Petzold: The Annotated Turing: Wiley Publishing: 2008
- Peter Millican and Andy Clark: Machines And Thought: Oxford UP:2002
- David J. Chalmers: Philosophy of Mind: Oxford UP: 2002
- John Heil: Philosophy of Mind, A Contemporary Introduction: Routledge: 1998, Reprinted: 2000
- Albert Newen: Analytische Philosophie zur Einführung: Junius: 2005
- …

PHEN CO CO

Planning Q2/2014

Q2.1 Phenomenology	Date:	*Beginning of April 2014, Doodle-Coclusion*
	Content:	Qualia, …, Nage, Jackson, Husserl, Heidegger, … (Denis, Auris)
Q2.2 Mind & Language	Date:	May 2014
	Content:	Cognitive Psychology & Linguistic (Denis) Content: Neurolinguistics, Primates, PhilOLanguage, Davidson, Tomasello (Anna)
Q2.3 Situated Cognition	Date:	June 2014
	Content:	Embodiment, Enactivism, Embedded Cognition/ Mind, Extended Mind

PHEN CO CO