Title: Workshop: Philosophy of Science
Instructor(s): Christian Suhm

Contents:

1a) What is philosophy of science?

philosophy of science as ‘science of science’ and methodology of science

central notions in the philosophy of science: theory, hypothesis, observation, experiment, (empirical/experimental) confirmation, falsification, explanation, deduction, induction, inference to the best explanation, scientific law/law of nature, scientific progress, (approximate) truth, realism, constructivism

important and influential positions: empiricism/positivism (Carnap, van Fraassen), falsificationism (Popper, Lakatos), constructivism (Kuhn, Feyerabend, Goodman), scientific realism (Boyd)

1b) Scientific realism

ontological thesis: mind-independence of reality

epistemological thesis: possibility/actuality of knowledge about the reality, especially about unobservable (theoretical) entities

semantical thesis: scientific truth means correspondence between theories and facts

2a) Theory, hypothesis, confirmation, falsification

What is theory? What is a hypothesis?

How are theories and hypotheses confirmed/falsified?

deductive-nomological model of explanation (Hempel)

inductive-statistical model of explanation (Hempel)

2b) (Problem of) Induction

the problem of induction (Hume, Kant, Popper)

deduction vs. induction

falsificationism (Popper, Lakatos)

inference to the best explanation (Lipton)

3a) Scientific progress

What role plays the history of science for methodology?

theory–method dynamics (Boyd)

(approximate) truth (Niiniluoto)

Can scientific progress be construed as an approximation to truth?

relativism, constructivism (Kuhn, Goodman)
3b) Arguments against scientific realism and approximation to truth
   empirical under-determination of theories (Duhem, van Fraassen)
   pessimistic meta-induction (Laudan)

4a) Philosophy of psychology
   universe of discourse: mental objects (thoughts, opinions, attitudes, experiences, impressions, emotions, and so on)
   introspection, first-/third-person perspective, intersubjectivity
   mind–body problem
   qualia, what is it like to be?

4b) Open discussion: psychological methodology
   psychology as a natural science
   reduction of mental to physical entities
   naturalism, naturalistic methodology

Assignment: Active participation, group work, discussions

Credit(s): 2 workshop days