

UNIVERSITY of BERGEN  
DEPARTMENT OF  
PHILOSOPHY

FIL 219 / 319 Fall 2017  
PHILOSOPHY OF SCIENCE  
VITENSKAPSILOSOFI

Lectures (in English)	Prof. Sorin Bangu, Prof. Kevin Cahill
Time	Fall 2017; Monday, 12.15-14.00. First lecture 28 Aug.
Place	Sydnesplassen 12/13, Room 129
Website	<a href="http://www.uib.no/emne/FIL219">http://www.uib.no/emne/FIL219</a> Check the Mitt UiB website associated with the course often!
Email	<a href="mailto:sorin.bangu@uib.no">sorin.bangu@uib.no</a> <a href="mailto:kevin.cahill@uib.no">kevin.cahill@uib.no</a>
Office	Sorin Bangu: 314A, Sydnespl. 12-13; Kevin Cahill: 315 Sydnespl. 12-13 <b>Important: please check your university email account often during the course, as this is the only address we will use to communicate with you.</b>

### Course description

We aim to cover in some detail a number of issues currently debated in the philosophy of natural and social science.

In the philosophy of natural science, we'll take up themes such as: the nature of science, explanation, realism, as well as the social context of scientific research. (More detailed descriptions of the course units below). There are virtually no scientific technicalities in these lectures, as the emphasis is on the philosophical and conceptual issues; however, some familiarity with logic and the basic vocabulary of analytic philosophy are an advantage (although not a requirement). In the second half of the course, we will survey some central issues in the philosophy of the social sciences. We will examine such topics as Rational Choice Theory, Naturalism, Interpretation, Functionalism, Structuralism, and Relativism. The primary goal will be to provide students with an adequate overview of relevant philosophical issues that arise in the course of social scientific inquiry and explanation.

### Readings

- Philosophy of Natural Science
    - Godfrey-Smith, P. *Theory and Reality*. The University of Chicago Press, 2003. Below abbreviated as **GSP**. Available at Studia or online sellers. Mandatory.
    - Okasha, S. *Philosophy of Science. A Very Short Introduction*. Oxford UP, 2002. Abbreviated as **OK**. Available at Studia or online sellers. Mandatory.
    - Recommended: several articles and book chapters available for free online, or in .pdf form on Mitt UIB.
  
  - Philosophy of Social Science
    - Little, Dan *Varieties of Social Explanation* (Boulder: Westview Press, 1991)
    - Supplementary Readings (mostly from): Martin, Michael and McIntyre Lee C. (eds.). *Readings in the Philosophy of Social Science* (Cambridge: MIT Press, 1994)
    - There will be a few other supplementary readings from other sources.
- (NB: All of the readings for this part of the course will be made available on Mitt UiB)

## Evaluation

- Two short papers, 2000-3000 words long (w/o bibliography), one on a topic in philosophy of natural science, and one on a philosophy of social science topic. The topics are announced in class toward the end of the term.
- Pensumlisten: deadline TBA.
- Master students should contact us for further details.
- Supervision: 1 hour. Draft of ca. 1000 words submitted at least 3 days in advance.
- **The essay can be written in Norwegian or English.**

## Academic dishonesty

This includes plagiarism or any other form of cheating; it is an extremely serious academic offense and carries penalties varying from failure in an assignment to suspension from the University. Definitions, penalties, and procedures for dealing with plagiarism and cheating are set out in University's documents. It is the student's responsibility to be familiar with this policy.

## SCHEDULE

[What's below is tentative. Our hope is that we'll cover everything, but depending on how the class discussion is going we might skip or add some material.]

### I. **What is Science? Philosophical questions about science. Methodology** (lectures 1, 2) uke 35 (28.8), uke 37 (11.09)

What is science? Is there such a thing as *the* scientific method? Is science different from other forms of inquiry? How should we understand scientific development: does science progress by accretion, or the process is rather non-linear? Does history of science play any role in answering these questions? This lecture will introduce a number of views on these issues.

Readings:

- OK: Ch. 1
- GSP: Chs. 1, 4.
  - Articles:
    - Popper, K. R., "Science: Conjecture and Refutations"
    - Popper, K. R. "The nature of philosophical problems and their roots in science"

### II. **Scientific reasoning. Explanation in Science** (lectures 3, 4) uke 38 (18.09), uke 39 (25.09)

Many people would argue that we expect science to *explain* natural phenomena happening around us. But, what is it to explain a phenomenon? How is scientific explanation different from common sense explanations, or other forms of explanation? What is it to understand a natural phenomenon? What types of reasoning do scientists use, and how justified are they?

Readings:

- OK: Chs. 2, 3
- GSP: Chs. 3 (only pp. 39-46), 13
  - Articles:
    - Hempel “Two Models of Scientific Explanation”
    - Salmon “Scientific Explanation: Causation and Unification”
    - van Fraassen “The Pragmatics of explanation”
    - Friedman “Explanation and Scientific Understanding”
    - Kitcher “Explanatory Unification and the Causal Structure of the World”

III. **Scientific realism** (lecture 5) uke 40 (02.10)

Should we believe that in addition to tables and chairs the world is populated with unobservable entities like electrons and genes? According to scientific realists we should, given the unquestionable success (both predictive and explanatory) of the theories featuring these entities; as realists often point out, if these theories weren't true their success would be nothing short of a miracle. Yet, as some philosophers argue, such an inference from success to truth is *not* vindicated by an examination of the history of science: many theories we regard today as false have also been considered successful in the past. More generally, since almost all theories in the history of science turned out to be false (by our present lights), we should perhaps (inductively) infer that our present theories are false as well. But, is this pessimism justified? How do realists respond to this challenge?

Readings:

- OK: Ch. 4
- GSP: Ch. 12
  - Articles:
    - Leplin “A Theory’s Predictive Success can Warrant Belief in the Unobservable Entities it Postulates”
    - L. Laudan “A Confutation of Convergent Realism”
    - Van Fraassen, “Arguments Concerning Scientific Realism” (Excerpts from Ch. 2 from *The Scientific Image*)
    - Glymour “Realism and the Nature of Theories”

**IV. Intro Phil. Soc. Sci; Naturalism and Causal Analysis** (lecture 6 uke 41 (9.10); cont'd lecture 8, uke 43)

Readings:

- Little: Ch. 1 & 2

Articles:

- Brian Fay and J. Donald Moon, "What Would an Adequate Philosophy of Social Science Look Like?"
- Carl Hempel, "The Function of General Laws in History"
- Michael Scriven, "A possible Distinction between Traditional Scientific Disciplines and the Study of Human Behavior"
- Charles Taylor, "Interpretation and the Sciences of Man"
- Julie Zahle, "Methodological Anti-naturalism, Norms, and Participant Observation"
- Mark Bevir, "Meta-Methodology"

**V. Scientific change and scientific revolutions** (lecture 7) uke 42 (16.10)

Scientific ideas change. Pick virtually any scientific discipline you like, and you can be sure that the prevalent theories in that discipline will be very different from those of 100 years ago. Compared with other areas of intellectual endeavor such as philosophy and the arts, science is a changing activity, making progress as time goes by. Unsurprisingly, interesting philosophical questions can be asked about scientific change: Is there a discernible pattern to the way scientific ideas change over time? When scientists abandon their existing theory in favor of a new one, how should we account for this? Are later scientific theories objectively better than earlier ones? Or, does the concept of objectivity make sense at all? We'll discuss several views on scientific change due mainly to Kuhn (as well as Lakatos and Feyerabend, time permitting).

Readings:

- OK: Ch. 3
- GSP: Chs. 5, 6, 7

• Articles:

- Kuhn "Logic of Discovery or Psychology of Research"
- Lakatos "Falsification and the methodology of research programs" pp. 91-137, 189-196.
- Feyerabend "Against Method revisited" Pp. 7-70 in Feyerabend, P. *Science in a Free Society* (London, New Left Books, 1978)

**VI. Rational Choice Theory** (lectures 8 & 9) uke 43 (23.10)

Readings:

- Little: Ch 3

Articles:

- Jon Elster, "The Nature and Scope of Rational-Choice Theory"

- Lars Udehn, "The Theory of Rational Choice"
- John Dupre, "Rational Choice Theory"

**VII. Interpretation Theory** (lecture 9 & 10) uke 44 (30.10)

Readings:

- Little: Ch 4

Articles:

- Charles Taylor, "Interpretation and the Sciences of Man"
- Clifford Geertz, "Thick Description"
- Dagfinn Føllesdal, "Hermeneutics and the Hypothetico-Deductive Method"
- Mark Bevir, "Why Political Science is an Ethical Issue"
- Mark Bevir, "Interpreting Governance"

**IX. Functionalism** (lectures 10 & 11) uke 45 (6.11)

Readings:

- Little: Ch 5

Articles:

- Jon Elster, "Functional Explanations in Social Science"
- Harold Kincaid, "Assessing Functional Explanations in the Social Sciences"
- R.P. Dore, "Function and Cause"

**X. Methodological Individualism** (lecture 11) uke 46 (13.11)

Readings:

- Little: Ch. 9

Articles:

- Steven Lukes, "Methodological Individualism Reconsidered"
- Richard W. Miller, "Methodological Individualism and Social Explanation"
- Harold Kincaid, "Reduction, Explanation, and Individualism"

**XI. Relativism** (lecture 12) uke 48 (27.11)

Readings:

- Little: Ch 10

Articles:

- David K. Henderson, "The Principle of Charity and the Problem of Irrationality"
- Charles Taylor, "Comparison, History, Truth"

- Clifford Geertz, “Anti-anti Relativism”
- Steven Lukes, “Some Problems about Rationality”

XII. **Recap.** Q & A w/both lecturers. No new material taught. Uke 49 (04.12)