

READINGS PHILOSOPHY OF SCIENCE

Introduction

Sep 3 Godfrey-Smith, chapter 1

Grand Theories of Science

Sep 8 The logical empiricist tradition
Schlick, "Positivism and realism"
Godfrey-Smith, chapter 2

Sep 10 The problems of induction
Strevens, "The problem of induction"
Goodman, excerpt from *Fact, Fiction, and Forecast*
Godfrey-Smith, chapter 3 (skip §3.3)

Sep 15 Popper's falsificationism
Popper, excerpt from *The Logic of Scientific Discovery*
Godfrey-Smith, chapter 4

Sep 17 Kuhn on normal science
Kuhn, *The Structure of Scientific Revolutions*, chapters 1 through 8
Godfrey-Smith, chapter 5

Sep 22 Kuhn on revolutions
Kuhn, *The Structure of Scientific Revolutions*, chapters 9 through 13 and
postscript
Godfrey-Smith, chapter 6

Sep 24 Theory and observation
Hanson, "Observation"
Fodor, "Observation reconsidered"
Godfrey-Smith, chapter 10, §3

Sep 29 After Kuhn
Laudan, "From theories to research traditions"
Godfrey-Smith, chapter 7

Oct 1 Corrigibility and the scientific method
Reading to be announced

Realism, Laws of Nature, Causality

- Oct 6 Empiricism versus realism ◁ Due date
Maxwell, "The ontological status of theoretical entities" (optional)
van Fraassen, excerpt from *The Scientific Image*
van Fraassen, "To save the phenomena"
Godfrey-Smith, chapter 12
First paper due
- Oct 8 Pessimism and structuralism
Stanford, "Pyrrhic victories for scientific realism"
Ladyman, "What is structural realism?"
- Oct 13 Columbus Day - No classes
- Oct 15 Laws and causality: Empiricism and Realism
Ayer, "What is a law of nature?"
Dretske, "Laws of nature"
- Oct 20 Laws and causality: Humeanism
Lewis on laws of nature (excerpt from *Counterfactuals*)
Lewis on Humean supervenience (excerpt from *Philosophical Papers*)
Lewis, "Causation"

Explanation

- Oct 22 Hempel's expectability approach
Hempel and Oppenheim, "Studies in the logic of explanation", pp. 135-146
Salmon, excerpt from *Four Decades of Scientific Explanation*
Godfrey-Smith, chapter 13 (optional)
- Oct 27 The causal approach
Strevens, *Depth*, §§1.41, 1.42, 2.1
- Oct 29 The unification approach
Kitcher, "Explanatory unification"
- Nov 3 Sophisticated causalism
Strevens, "The causal and unification accounts of explanation unified - causally"
- Nov 5 Breathcatching day - No reading

Evidence

- Nov 10 Instantialism and the ravens ◁ Due date
Hempel, "Studies in the logic of confirmation", §§1-5
Godfrey-Smith, chapter 3, §3
Second paper due

- Nov 12 Instantialism and unobservables
Glymour, "Relevant Evidence"
- Nov 17 Bayesianism: Mechanics
Strevens, "Notes on Bayesian Confirmation Theory", §§1-6
Godfrey-Smith, chapter 14, §§1-4 (optional)
- Nov 19 Bayesianism: Philosophical issues
Strevens, "Notes on Bayesian Confirmation Theory", §§7, 9

The Social Structure of Science

- Nov 24 The sociology of science: Functionalism and anthropology
Merton, "The normative structure of science"
Merton, "Priorities in scientific discovery"
Hagstrom, "Gift-giving as an organizing principle in science"
Godfrey-Smith, chapter 8
- Nov 26 Turkey Memorial Day - Class cancelled
- Dec 1 The sociology of science: Critical approaches
Collins "The seven sexes"
Okruhlik, "Gender and the biological sciences"
Godfrey-Smith, chapter 9
- Dec 3 Organizing science
Kitcher, "The division of cognitive labor"
Godfrey-Smith, chapter 11
- Dec 8 The credit system in science
Latour and Woolgar, "The cycle of credibility"
Strevens, "The role of the priority rule in science"
- Dec 10 Summing up