

Philosophy Preliminary Exam Syllabus

Philosophy of Science with Realism

This syllabus covers four topics of central importance to the epistemology of science. You ask what makes something a scientific explanation, what is required for observations to support (confirm) scientific theories, whether successful prediction is a better indicator of truth than post hoc accommodation, and whether the success of a scientific theory in predicting observations is a reason to believe its claims about unobservables are true.

Background

John Earman and Wesley C. Salmon, "Probability," *Philosophy of Science*, Merrilee Salmon et al. eds., Hackett Press, Indianapolis, IN, 1999 pp. 66-101.

Scientific Explanation

Hempel, *Aspects of Scientific Explanation*, Free Press, 1965, 333-354, 412-415, 364-376, 376-403.

Salmon, 'Statistical Explanation,' *The Nature and Function of Scientific Theories*, R. Colodny ed., University of Pittsburgh Press, 1970, 173-231.

Kitcher, 'Explanatory Unification' *The Philosophy of Science*, R. Boyd et al. eds., MIT Press, 1991, 329-348.

Lewis, 'Causal Explanation,' from: *Philosophical Papers Volume II*, Oxford University Press, 1986, 214-240.

Craver, C.F. & Bechtel, W.P., 'Mechanism,' Sarkar & J. Pfeifer (eds.), in *Philosophy of Science: An Encyclopedia*. New York: Routledge, 469-478.

Confirmation and Disconfirmation

Hume, *An Enquiry Concerning Human Understanding*, T. L. Beauchamp ed., Oxford, 1999, 108-130 (§§ IV, V).

Popper, *Objective Knowledge*, ch. 1, Oxford University Press, 1979, 1-31.

Salmon, 'Rational Prediction,' *The Limitations of Deductivism*, A. Grünbaum and W. Salmon eds., University of California Press, Berkeley, 1988, 47-60.

Howson and Urbach, “Bayesian versus Non-Bayesian Approaches, *Scientific Reasoning*, Open Court, Chicago, 1993, 117-131.

Kendall, ‘Designing a Research Project,’ *online*

Consilience, Prediction, Accommodation

Whewell, Selections on Consilience, *The Philosophy of the Inductive Sciences, founded upon their history*, Volume II, Johnson Reprint Corporation, 1967, 62-68, 74-79.

Hitchcock and Sober, ‘Prediction vs. Accommodation,’ *online*

Barnes, ‘Predictivism for Pluralists,’ *online*

Realism

Laudan, ‘A Confutation of Convergent Realism,’ *The Philosophy of Science*, D. Papineau ed., Oxford University Press, 1996, 108-138.

Musgrave, ‘The Ultimate Argument for Scientific Realism,’ *Relativism and Realism in Science*, R. Nola ed., Kluwer Academic Publishers, 1988.

Worrall, ‘Miracles and Models: Why reports of the death of Structural Realism may be exaggerated’ *online*

Roush, ‘Optimism about the Pessimistic Induction,’ Sherrilyn Roush, *New Waves in Philosophy of Science*, Jacob Busch and P.D. Magnus eds., Palgrave MacMillan, 2009.

Locations of online readings:

Kendall, ‘Designing a Research Project ...,’ *Emergency Medical Journal* 20 (2003), 164-168. doi:10.1136/emj.20.2.164

Hitchcock and Sober, ‘Prediction vs. Accommodation ...,’ *The British Journal for the Philosophy of Science* 55 (2004), 1-34.

Barnes, ‘Predictivism for Pluralists,’ *The British Journal for the Philosophy of Science* 56 (2005), 421–450.

Worrall, J., ‘Miracles and Models: Why reports of the death of Structural Realism may be exaggerated,’ *Royal Institute of Philosophy Supplement*, 61 (2007) 125-154.