Philosophy Preliminary Exam Syllabus

Philosophy of Science with Simplicity

This is a study of four topics of central importance to the epsitemology of science. You ask what makes something a scientific explanation, what is required for observations to support (confirm) scientific theories, whether predictive success is a better indication of the truth of a theory than post hoc accommodation, and whether simplicity is a guide to truth.

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*

Simplicity

Forster, 'Bayes and Bust: Simplicity as a Problem …,' §§ 1, 2, 3, 6, *online*

Forster and Sober, 'How to Tell When Simpler …,' *online*

Kelly and Glymour, 'Why Probability Does Not Capture the Logic of Scientific Justification,' *Contemporary Debates in Philosophy of Science*, Christopher Hitchcock, ed., Malden, MA: Blackwell, 2004, 94-114.

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.

Forster, 'Bayes and Bust: Simplicity as a Problem …,' §§ 1, 2, 3, 6, *The British Journal for the Philosophy of Science* 46 (Sep., 1995), 399-424.

Forster and Sober, 'How to Tell When Simpler …,' *The British Journal for the Philosophy of Science* 45 (Mar., 1994), 1-35.