

Final Examination Study Questions***Logical Empiricism, Neo-positivism, Confirmation, and the Realism-Antirealism Debate***

1. What was the protocol-sentence debate all about? Be sure to explain the positions of Otto Neurath and Moritz Schlick.
2. Contrast Hempel's satisfaction criterion of confirmation with the Nicod criterion. How serious a challenge is posed to each by the paradox of the ravens?
3. Why is it so important for instrumentalists to defend a strong theory/observation distinction? You might want to use the Craig elimination theorem in explaining your answer.
4. Explain Maxwell's "continuum of size" and "continuum of observational means" arguments. What are they supposed to establish?
5. Explain McMullin's argument for "structural realism" and Hacking's argument for "entity realism."
6. Give a brief characterization of van Fraassen's "constructive empiricism" (remember to define carefully the concept of "empirical adequacy") and then explain how it differs from both instrumentalism and realism.
7. What are the principal varieties of structural realism? What classic objection to realism affords the challenge that is the main motivation for the rise of contemporary structural realism? Can the structural realist meet that challenge?
8. What is Fine's "Natural Ontological Attitude" program? How does it differ from both realism and instrumentalism?

Goodman and Quine as Critics of Logical Empiricism

9. What is Goodman's "New Riddle of Induction" and why does it represent a challenge to logical empiricism? What is Goodman's own solution to the "New Riddle"?
10. Sketch Quine's critique of the analytic-synthetic distinction as developed in "Two Dogmas of Empiricism." How might a defender of analyticity respond to Quine's critique?
11. Quine's "two dogmas" are the analytic-synthetic distinction and what Quine terms "reductionism." What is the latter, and why does Quine think that "the two dogmas are, indeed, at root, identical"?
12. Describe Quine's conception of a naturalized epistemology. Outline his argument for this position.
13. Some would argue that any version of epistemological naturalism is guilty of a vicious circularity because it employs, as tools, some of the very same scientific theories that it aims to investigate. Quine seeks to sidestep this objection by disavowing any justificatory ambition for epistemology. What is your view?

14. Some argue that the extreme Quinean version of theory holism and underdeterminationism devolves, inevitably, into a form of radical relativism. Why might one think that? Is it true?

15. How, if at all, does Duhem-Quine-style empirical underdetermination of theory choice differ from Humean inductive uncertainty?

16. What is Quine's thesis of the indeterminacy of radical translation? Were it true, would it be a problem for theorizing cross-cultural or cross-paradigm communication?

Kant, Kuhn, Carnap, Quine, and Friedman: The Relativized A priori as a Metaparadigm

17. Briefly sketch the essential features of Friedman's *Dynamics of Reason* project. How does the Friedman version of the relativized a priori differ from the Reichenbach version?

18. What, according to Friedman, is the main problem confronting Kuhn, Carnap, and Quine as proponents of philosophical metaparadigms alternative to Friedman's relativized a priori project? Choose one of those three and discuss the question whether Friedman's critique is valid.

19. Friedman bases his argument for the relativized a priori on a detailed reconstruction of the history of mechanics and gravitation theory from Newton through Einstein. Sketch that history, being careful to explain what, exactly, are the contingent a priori principles in Newtonian mechanics and gravitation theory and in Einstein general relativity.

20. What notion of "constitution" or "construction" is in play in Friedman's analysis of the contingent a priori as representing the constitutive moment in scientific cognition?

21. What kind of rationality is said by Friedman to be exhibited in his reconstruction of the history of mechanics and gravitation theory? Is it reasonable to expect similar diachronic structures of rationality to be found in other scientific domains?

22. Ryckman would favor our turning to Husserl, even more than to Kant or Reichebach, for theorizing the contingent a priori elements of scientific cognition. Why? What difference would this make by comparison with Friedman's original idea?

23. It seems unavoidable that claims about *contingent* a priori elements in scientific cognition will have to be defended on the basis of historical analyses of science. Why? If so, what kind of historical analysis and evidence should be employed? What standing should be accorded to the analyses of the historical actors, themselves, by contrast with the philosophers' rational reconstructions of the history?

24. What was Einstein's main objection to the analysis of general relativity, or science more generally, along the lines of the Reichenbach or Friedman model of the contingent a priori?