

Mid-term Examination

General Directions: This examination is divided into three sections of four questions each. You are to answer a total of four questions, choosing at least one from each section.

The Historical Background to Logical Empiricism

1. Sketch the kind of argument that Henri Poincaré employed to motivate his brand of conventionalism. What did Poincaré mean when he wrote that conventions are “disguised definitions”?
2. There are at least two ways of interpreting Ernst Mach’s philosophical program, one that emphasizes the phenomenalist moment in his thinking and one that emphasizes the historical-critical and biological-economic moment. Describe these two readings of Mach and the evidence supporting each.
3. The task confronting logical empiricists in the early 1920s is said to have been that of developing a new form of empiricism capable of defending the empirical integrity of Einstein’s general theory of relativity in the face of neo-Kantian reactions to relativity. What was the issue under debate here?
4. In what ways do the logicist (Frege–Russell) and formalist (Hilbert) programs in the foundations of mathematics represent challenges to the Kantian view of the nature of mathematical truth?

The Vienna Circle and Its Friends

5. Hans Reichenbach’s first book, *Relativitätstheorie und Erkenntnis Apriori*, advanced a novel point of view about the a priori. What was that view and what kind of reaction did it elicit from Schlick?
6. In the 1920s, two views emerged within the Vienna Circle regarding (a) the role of conventions in scientific theories and (b) the empirical content of scientific theories. We termed these views “epistemological holism” and (for want of a better term) “epistemological atomism.” Explain and contrast these two views.
7. Otto Neurath and the other members of the “left wing” of the Vienna Circle disagreed with the “right wing” about both the structure and empirical interpretation of scientific theories and about the place of social and political values in theory choice. What were these differences and how were the two debates connected with one another?
8. What is the verifiability criterion of meaningfulness? What problems is it supposed to solve? What are the chief difficulties with the criterion?

Do Some Philosophy

9. The young Hans Reichenbach argued that a contingent a priori played a significant role in scientific cognition. More recently, Michael Friedman has made Reichenbach’s notion of the contingent a priori the starting point of his own attempted Kant revival. Assess the prospects for success of such a program.
10. We spoke in class about the question of the “gap” between the contents of subjective experience and putatively objective, scientific knowledge formulated propositionally. In your opinion, can this gap be bridged? If not, why not? If so, how? Or is the question itself perhaps not well posed?

11. Generally speaking, neo-positivism took as its aim the formal (perhaps even purely syntactical) definition of core methodological concepts and assumed that such definitions would have normative force across a variety of scientific disciplines. In your opinion, is this a reasonable way to conceive the task of a philosophy of science?

12. Neurath argued that there is a proper role for social and political values in theory choice. So, too, have some contemporary feminist philosophers of science, some of them, such as Helen Longino, adducing arguments strikingly like those of Neurath. Others worry that allowing a role for social and political values in theory choice necessarily compromises the objectivity of science. What is your view?