

PHILOSOPHY OF SCIENCE PAPER TOPICS I

Due Date October 6th, 10.45 AM. Late papers will be penalized one grade increment (e.g., from an A- to a B+, or from a B to a B-), for every day or part thereof that they are late.

Length Eight to ten pages

Plagiarism All work submitted for this class should be your own. Any words quoted from other sources should be attributed explicitly to those sources. If you are unsure whether your use of someone else's work is legitimate, please ask me. The penalties for plagiarism include failing the class and worse.

Reading It is not absolutely necessary to do additional reading, but for many of these questions it will be worth your while. For example: a small amount of knowledge of the history of science will be useful for question 5; you might like to take a look at other people's writing on Kuhn if you are answering question 7; you should read some Lakatos if you answer question 9. The best place to start is Godfrey-Smith's suggestions for further reading (at the end of each chapter). The online Stanford Encyclopedia of Philosophy (plato.stanford.edu) is, though a work in progress, also very useful.

Topics Answer one of the following questions.

1. From the observation up to the present day of large numbers of emeralds, all green, is it just as rational to infer that all emeralds are grue as to infer that all emeralds are green? (An emerald is grue if it is green and first observed before the year 2010 or green and not observed before the year 2010.)
2. Why, according to Popper, a single observation is typically not sufficient to falsify a hypothesis? Explain the role of "falsifying hypotheses" in Popper's thought; critique or defend his view.
3. Is Popper's "corroboration" just a lightly disguised version of inductive support?

4. During periods of normal science, Kuhn says, scientists do not look outside the confines of the paradigm (or at least, such speculation plays no part in their actual scientific work). Critically discuss his reasons for thinking this. Use an example from the history of science.
5. During periods of normal science, Kuhn says, there can be only one paradigm. Why does he say this? Is he right?
6. To what extent is scientific inquiry a rational process, according to Kuhn? (Don't forget normal science! But focus on revolutions.)
7. To what extent does Kuhn's postscript to *The Structure of Scientific Revolutions* take back his more notorious claims in book's first edition? (Start out by saying which notorious claims will be relevant to your discussion.)
8. To what extent are the results of observations in science determined by outputs of parts of the brain that work the same way in all normal humans, regardless of beliefs, culture, and so on?
9. Compare and contrast Lakatos's and Laudan's post-Kuhnian visions of science. Which (if either) seems more promising? (We will read Laudan in class, but you will need to find some Lakatos on your own.)