HPS/Pl 120
First Paper Assignment

Instructions: Write a paper of approximately 1,800 words (6 double-spaced typed pages). The general guidelines are as follows. First, your paper must critically engage one or more of the topics we have discussed in the first five weeks of class. Second, your paper should not *merely* summarize the position(s) of some of the authors you discuss; it should in some way locate them relative to each other, synthesize those ideas, criticize them, defend them against important objections, or develop them in your own way. Third, the topic of your paper should be of an appropriate scope given the length constraints. Some students will have strong backgrounds in some area of science that they may wish to bring to bear in their papers. This is fully encouraged, so long as: (i) all of the technical ideas are explained as clearly as possible within the constraints of the length limits of the paper; and (ii) your paper grapples directly with the philosophical issues raised in this course, and is not merely an exposition of the relevant science.

Due Date: You must submit your paper to me by email before the start of class on Thursday, November 3rd.

Grading: This paper is worth 25% of your final grade, and will receive a numerical grade out of 25.

Collaboration: Collaboration on this assignment is encouraged. Students are free to discuss the topics with one another, read each other's papers, and offer suggestions. Any suggestions or ideas contributed by another student must be acknowledged just as you would acknowledge an idea taken from any other source. The only restriction is that each student must write their own paper containing their own ideas and words.

References: All sources used in the writing of your paper must be properly referenced. This applies to material in the course readings, other published material, lecture notes from this class and other classes, material 'published' on the internet, and ideas contributed verbally by other students. Information about proper procedures and formats for references is included in my handout "How not to get BOC'ed," which is posted on the course website. Further information is also available at http://www.its.caltech.edu/~words/plagiarism/index.html. Failure to follow these guidelines may result in a lowered grade or even an automatic F in the course; it may also lead to charges being brought before the Board of Control. If you have any questions about these issues, please do not hesitate to contact me.

Advice on Writing a Philosophy Paper: The course website contains several handouts on writing a philosophy paper, as well as links to websites on the topic.

Reading Drafts: I am happy to read drafts of papers, on a time-permitting, first-come, first-served basis. If you get a draft to me by Monday the 1st, it is likely that I can get it back to you by Tuesday evening. Please indicate whether you would like to receive detailed comments, or only a general sense of whether you are on the right track. Please request the former only if you actually plan to make substantial revisions to your paper based on the feedback.

Topics: The topics offered below are given as suggestions: you may address one of them as is, you may modify one of these topics, or you may create your own topic. Whatever topic you may choose, your essay should have a title that clearly and accurately reflects what the essay is about. If you would like further readings that may be helpful in addressing some of these topics; I recommend starting with the Stanford Encyclopedia of

Philosophy. Asking me for advice for what to look at is also a very good idea.

1. Consider a scientific field, theory, or episode with which you are familiar. How well does Popper's account of science fit with your example? Is the theory in question falsifiable? Are the scientists involved using the kind of methodology described by Popper? Should they be?

2. Both Popper and Hempel say that there is no "logic" to the context of scientific discovery. That is, hypotheses are tested regardless of how we came up with them and are falsified or confirmed/disconfirmed in exactly the same way. Is there any reason to think that hypotheses generation is an important part of scientific methodology or scientific testing?

3. Both Popper and Hempel believe that deduction plays a significant role in scientific testing, but that induction plays no important role. Are they right to think this?

4. What can we say about the past success of inductive methods and does this success in any way justify the use of these methods? Is the charge of circularity from Hume and Salmon against such justification avoidable?

5. Popper and Salmon both say that the introduction of probability theory does not directly help us to solve the problem of induction. Are they right?

6. Howson and Urbach believe that subjective Bayesianism gives the correct answer in several kinds of cases thought to be problems for a general inductive logic. For example, they believe that the solution to the grue problem (and various forms of underdetermination in general) is that our prior probabilities directly represent the plausibility of various hypotheses (like that all emeralds are grue) and our reported differences in our posterior probabilities for hypotheses is a direct result of our prior plausibility assessments. Is this an acceptable resolution to the puzzle?

7. Critics of subjective Bayesianism, especially for use in science, often worry that the reliance on individuals prior probabilities to determine what counts as evidence for what and to what degree imparts an unacceptable relativism into science where we should have a robust kind of objectivity. Is this a fair criticism?

8. The logical positivists wanted a "logical" theory of confirmation where facts about the world suffice for it to be the case that E confirms H. A natural reading of the subjective Bayesian is that there are no such facts but that all confirmation and evidential support is relative to a person's subjective degrees of belief (so E might confirm H for me but not for you). Is this the right reading of subjective Bayesianism and if so, is this a good or bad result for the view?

8. Hempel's deductive nomological model of explanation claims that laws of nature are essential parts of good scientific explanations. Would Salmon and Kitcher agree? Who is right?