

Philosophy 128 – Philosophy of Science  
Spring 2007  
Paper Topics-#1

Paper Due: Monday, February 12th, 2007, file as attachment to [easwaran@berkeley.edu](mailto:easwaran@berkeley.edu) (MS Word, .pdf, or ask Kenny)  
Length: 3 full pages. Type your paper in 12 point font, double-spaced, with standard margins.

Office hours:

Roush -- Wed. 2:30-4:30, and by appt., 146 Moses, and by appt.  
Kenny – Tues. 2-4, 1040 Evans, and by appt.

Don't hesitate to ask questions about the topics.

Choose one of the following questions and write a well-organized, cogent, accurate, thoughtful response. Be sure to reconstruct accurately any views you discuss, and to give reasons for your answers to the question you choose. Think of your answer to the question as an argument with a thesis. (Note that there is no need to write an introductory paragraph placing your work within the historical sweep of western philosophy. Simply begin with your topic, describing in the first paragraph what you're going to do, and what your thesis is.)

1. Consider the discussion of the persistence of sickle cell anemia at [http://www.pbs.org/wgbh/evolution/educators/course/session7/explain\\_b\\_po\\_p1.html](http://www.pbs.org/wgbh/evolution/educators/course/session7/explain_b_po_p1.html) Briefly present a simple version of the explanation and analyze it in terms of whichever one among the Hempelian, statistical relevance, unification, or causal models of explanation appears most suitable. Evaluate the explanation in the terms of this model, and the model against this example of a real explanation. Does this raise any interesting questions about explanation?
2. One of the most famous counterexamples to the D-N model of explanation concerns the flagpole and its shadow. (See p. 21 of textbook.) This example has been taken to show that the requirements laid out for D-N explanation are too weak, and must be supplemented so that we can capture

the asymmetries of explanation and avoid counting shadows as explaining things. From a careful understanding of the Hempel reading, construct as thorough a hypothesis as you can about the reasons why Hempel refused to revise his model to change what it said about this example.

3. Take determinism as the thesis that every event has a cause (or set of causes) that is (jointly) sufficient to bring that event about. In our world, the thesis of determinism may not be true. Wesley Salmon thinks that his account of statistical explanation in terms of relevance is superior to Hempel's account, especially if determinism is *not* true. Carefully explain why. Then construct the best possible rejoinder from Hempel's side that you can come up with.

4. David Lewis submits that every explanation conveys information about the causal history of the event asked about. According to Carl Hempel, this isn't so. Explain a case that illustrates this disagreement, critically assess each side of the disagreement, and take a stand on one side or the other, giving your reasons.

5. Explain why Hempel cannot regard the citation of latent syphilis as an explanation of paresis. Explain why Salmon can, and how exactly he achieves this. Which view of paresis-type examples is preferable? Why?

6. Consider paresis. Suppose (as we were not assuming in class) that there are factors beyond syphilis the having of which makes paresis more likely and that we know all of them. How many explanatory arguments (and argument types) do we then have for paresis, *on Kitcher's view*? Why? Does this consequence of Kitcher's view strike you as right, or does it create a problem? Why?

\*7. Do Salmon's statistical relevance conditions for explanation indirectly imply that better explanation will bring more unification? How is this achieved, or how not? Is this a virtue or vice of the view?

\*8. Hempel's view of explanation implied that all explanations were potential predictions. Does Kitcher's demand that explanatory arguments *unify* our knowledge enhance the prospects that these arguments are potentially predictive? (If space: Hempel also thought that all adequate predictions were potential explanations. Does Kitcher's view imply that predictive power of an argument means that it's more explanatory too?)

\*9. Is every argument that counts as an explanation by Kitcher's unification standard an explanation by Hempel's covering law standard? Why or why not?

\*10. Hempel claims that all causal explanation abides by the covering law model. Explain why he thinks this, and why Lewis rejects it.