PHIL-UA 90, Spring 2017

PAPER TOPICS PHIL SCIENCE

Due Dates March 6th, April 3rd, May 8th at 9.30 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 Papers should be 1800 to 2000 words long (about six pages with lines one-and-a-half spaced)

Formatting Left and right margins should be at least 1.5 inches wide. Use one-and-a-half spacing. No tiny font sizes, please. (Times at 12 pt or Palatino at 11 pt are about the right size.)

Submission Submit papers by way of NYU Classes. Use one of the following file types: Word, PDF, HTML, RTF, or plain text; please include the appropriate file extension.

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.

Guideline You should spend about half your time presenting the relevant material and about half your time in critique. In some cases, the presentation might be shorter.

Topics For the first paper, answer one of the following questions. In selecting a question, don't go past the due date for the paper. But earlier topics remain on the table: for example, for the third paper you can answer any of these questions at all.

1. Can a principled distinction be drawn between what's observable and what's not? What implications does the answer have for Schlick's logical positivist program? (Don't forget to explain what the program is.)

2. 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 2050 or blue and not observed before the year 2050.)
3. Why, according to Popper, is a single observation typically not sufficient to falsify a hypothesis? What does he mean when he says that falsification requires a "reproducible effect"? Having explained Popper's views on this matter, critique or defend them.
4. Is Popper's "corroboration" just a lightly disguised version of inductive support? Consider arguments both for and against.
5. According to Kuhn, what role is played by a paradigm (in the broad sense) during normal science? In answering this question, discuss two important functions of the paradigm. To what extent is it important that scientists are incapable of thinking outside the paradigm?
6. During periods of normal science, Kuhn says, there can be only one paradigm. What are his motivations for saying this? Is he right?
7. In revolutionary times, can there be good reasons for a scientist to make the leap from the old paradigm to the new paradigm? Explain Kuhn's answer to this question, and discuss.
8. In what ways is it possible to say that a move from one paradigm to another constitutes scientific progress, according to Kuhn? Is his view plausible?
9. 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? How does this help with the problem of the theory-ladenness of observation?
10. Contrast Lakatos's and Laudan's post-Kuhnian visions of science, focusing on one aspect where they differ. Which (if either) seems more promising? (We will read Laudan in class, but you will need to find some Lakatos on your own.)

Stop here for March 6th paper ◁

11. What is the regularity account of laws of nature? Present one of Dretske's arguments against the regularity account. Is Dretske right?
12. Describe Dretske's account of laws of nature. Present one advantage and one disadvantage of the account. Discuss.
13. What does Mitchell mean when she says that biological laws come arrayed along several "dimensions"? Give one argument in favor of her view and one against. Which is stronger?

14. What is Hempel's deductive-nomological theory of explanation? Give one or two arguments against the account. How might Hempel defend himself against these objections?

15. Give an argument in favor of the causal account of explanation. Then give an argument against the causal account. Critically discuss one of these arguments. (So: present two arguments, then pick one of the two and discuss whether or not it works.)

16. What is the function of law statements in science, according to Cartwright? Give an argument against Cartwright's view. Is the argument successful or can she deflect it?

Stop here for April 3rd paper ◁

17. Describe Hempel's instantialist theory of confirmation. What is one problem that Hempel's account solves? What is one difficulty that Hempel's account faces? How bad is that difficulty?

18. What is Hempel's "raven paradox"? Explain one way that the paradox might be resolved. Is the resolution successful?

19. Why do some philosophers think that the Bayesian theory of confirmation is "too subjective"? Explain how convergence results might help to defuse this objection. Consider one or two weaknesses of this use of convergence; are the weaknesses fatal?

20. How can Bayesian confirmation theory be used to address Hempel's ravens paradox? (Start by explaining the paradox.)

21. What is one way in which values enter into scientific inquiry, for better or worse? (You might focus on either the Douglas or the Richardson papers.) To what extent must traditional philosophy of science be modified to accommodate the impact of values? (It may help to choose a particular dead philosopher of science to represent "tradition", e.g., Popper or Hempel or even Kuhn. You may, if you wish, argue that no modification is needed at all.)

22. To what extent do sociological studies of science (I am of course thinking of Collins in particular) undercut Kuhn's account of scientific inquiry? Lay out some central theses of Kuhn's account first; then show how the sociology might be thought to refute those theses. Defend Kuhn, if you will.

23. How can the social organization of science help to make science a more effective means of inquiry? (Focus primarily on either Merton or Kitcher.) Discuss.