Phil 3330 Sample in class exam answer
Spring 2014

For the in class exam on April 14th, you will see three questions and have 50 minutes to answer two of them. Sample questions are available on the website and here is a sample answer to a question of similar length and complexity. This answer would be an A. Other answers could also be an A – there are many relevant things I could have talked about that I ignored. In general, you should try to answer the question as directly as possible without a lot of unimportant detail – however, it is also true that you want to try to show your understanding of the readings. But part of this understanding is recognizing what is important to answering the question and what is not.

Question 1) A.J. Ayer and other positivists said that the meaning of a statement is tied up with its verifiability conditions. Popper said that scientific statements have to be falsifiable. Are these just two different ways of saying the same thing, or is there a substantial difference between the two views?

a. Explain what, if any difference there is here
b. Is some kind of testability criterion a good way to demarcate scientific claims from non-scientific claims?

Answer:
1a) A.J. Ayer and other positivists believed that the meaning of a statement was its verifiability conditions. Or in other words, to know its meaning is to know how to verify it. Popper argued that scientific claims are falsifiable which means that they entail claims about observation statements such that it would be possible to observe something that would show that the claim is false. Pseudoscientic claims are not falsifiable – they make no empirical predictions which can be checked. These two views are not the same. The verifiability account of meaning is an account of what gives statements their meaning whether they are scientific or not. It is meant to separate the meaningful from literal nonsense. Popper's view is about what makes a claim scientific as opposed to pseudoscientific. For Popper, pseudoscientific claims have meaning, they are just not falsifiable and so not scientific.

1b) While some kind of testability criterion often seems to correctly demarcate science from non-science, it is not a good criterion in general. It is not necessary – many scientific theories are not obviously testable. Very general claims in fundamental physics about the ultimate nature of reality are clearly part of science. But it is hard to see how we could test whether or not they are true. They don't make any particular empirical predictions which we can then go and check. Instead, we think that they are explanatorily powerful or elegant or something. Another worry is that individual hypotheses by themselves don't make empirical predictions either – they only do so with the help of auxiliary assumptions. So it is not clear what it means to falsify Newton's Universal Law of Gravitation for example. If we

found masses that didn't seem to be following the law, it is always possible that we are wrong about the masses or the distances between them or that there are other forces at work. – Testability is also not sufficient for being scientific. Science is a social process so theories that seem to make some predictions about the way the world is, like scientific young earth creationism, astrology, phrenology, and others are today considered pseudoscience because even though they can be tested, they have been, and they are false. So to continue to hold on to them is unscientific behavior.