Philosophy 3330 Spring 2021
Take-Home Exam 1
~~Due Tue, Feb 23~~
Due Thur, Feb 25

Purpose: The purpose of this exam is two-fold: first, as a test of content knowledge, and second, as an exercise to help improve your philosophical skills.

This exam will test whether you understand the following important ideas:

1) The philosophical theories of Francis Bacon, David Hume, and Karl Popper
2) The philosophies of science known as naive inductivism and falsificationism
3) Important philosophical problems such as the problem of induction and the Duhem problem
4) Concepts important to evidence in medicine such as the randomized controlled trial and extrapolation

This exam will help you to practice the following important philosophical skills:

1) Reading and understanding philosophical arguments
2) Criticizing the philosophical arguments of others
3) Synthesizing and integrating information and arguments from different sources
4) Creating arguments of your own

Task: This is a take-home exam. You are to answer each of the following four questions and upload your answers into blackboard before class time on ~~Tuesday, Feb 23rd~~ Thursday, Feb 25th (that is, before 2:00pm). You may use your class notes, your textbook, the internet and other sources, and you may consult with your TA or your instructor. But you should not work with any other students on this exam. All answers should be entirely your own. If you do take something directly from another source such as for a quotation, it should be properly cited. Taking the work of someone else and presenting it as your own work is plagiarism.

Here are the four questions you should answer:

1) Francis Bacon and Karl Popper believed very different things about the scientific method. First, describe each of their views about what makes good science describing key differences between them. Second, evaluate how accurate you think each of these views is by thinking about examples of good science.

2) David Hume thought that inductive arguments could not be justified. Explain why he thought this. In our textbook, Ladyman looks at several possible 'solutions' to the problem. Carefully describe and critically evaluate at least one of these solutions (or alternatively, present your own possible solution). Does your answer actually show how inductive arguments can be justified?

3) Stegenga talks about two different kinds of extrapolation – moving from animal models to humans and moving from one human population to another. Discuss the similarities and differences between the two types of extrapolation problems. For example, is the way to deal with these problems fundamentally the same? Or very different? In what kinds of cases do you think extrapolation is justified?

4) A cohort study takes a group of people with a particular property (say everyone who lived within 1 mile of this chemical plant in the year 2000) and does a detailed study of their life history. How is this different from a case-control study and from a randomized controlled trial? Randomized controlled trials are typically considered to provide stronger evidence than either cohort studies or case-control studies. Why? What advantages do they have over non-randomized studies? First, if RCTs provide better evidence, why do we ever bother to do non randomized trials? Second, how strong is the evidence they provide? Multiple authors that we have discussed in class have been worried about the limits of our scientific knowledge. Do RCTs avoid these worries? Or are they importantly limited as well?

Criteria for success: This exam is worth 20 points (and is thus 20% of your final course grade). Each question will be graded individually and is worth 5 points. A good answer answers each part of the question clearly and directly. Good answers to the same question can vary widely and especially can vary between questions (some require longer answers than others) but I might expect that the best answers to these questions will be between 500-1000 words each. But you will be graded on the quality of your answer – not on how long it is (for example, providing extraneous but true information does not help and sometimes can hurt).