

**Philosophy 2330: Science and Society
Fall 2021, Long Paper Assignment #1**

Purpose: One central purpose of our class as a whole is to think about the nature of science. This question includes thinking about scientific methodology and about the social structure of contemporary science and how each is related to the question of whether we should trust science.

The standard unit of philosophical analysis is the argumentative essay. Writing is an extension of thinking. It allows you (and forces you!) to think more deeply about a topic than you are able to do by keeping things 'in your head.' Exposition of someone else's views (including careful description of those ideas, issues, terms and scope) allows you to understand them better, and it is then much easier to critically evaluate these views. Laying out your own argument or that of someone else often forces you to be explicit about connections which can reveal weaknesses in your own thinking which must be acknowledged so they can then either be fixed or can lead to better views overall. Thus the purpose of assigning an essay is both as an effective way to evaluate your learning and progress in the class and to help improve your philosophical skills.

Instructions: You are to write an argumentative paper on some topic relevant to the question of whether we should trust science. This means that anything relevant to Oreskes' book *Why Trust Science?* or relevant to Anderson's paper "Democracy, Public Policy, and Lay Assessments of Scientific Testimony" will automatically count as acceptable. You are strongly encouraged to write your paper using the outline discussed in your tutorial though this is not a requirement. The paper should be between roughly 1300 and 1800 words. If you double space and have natural fonts and margins, your essay would be about 4-6 pages.

Due Date: Your essay should be uploaded into Blackboard before your class on Tuesday, November 9th (so before 11:00am). Your paper should be anonymous with no identifying features.

Grading: This paper will be worth 20 points (20% of your final grade).

Guidelines: An argumentative essay is a reasoned defense of some particular claim. A general guideline for a paper like this is that you should spend about half of your time in exposition and half your time in evaluation.

Here are some useful guides to writing philosophy papers:

https://philosophy.fas.harvard.edu/files/phildept/files/brief_guide_to_writing_philosophy_paper.pdf (from Harvard College's Writing Center)

<https://www1.cmc.edu/pages/faculty/akind/Intro01s/Writing.htm> (from Amy Kind)

<http://www.jimpryor.net/teaching/guidelines/writing.html> (from Jim Pryor)

http://joelvelasco.net/teaching/120/How_to_Write.pdf (from Chris Hitchcock)

Topic:

You may choose to write about any topic relevant to the question of trusting science. For example, here are some good topics. Many others are possible.

1. Does the problem of underdetermination show that we can't trust science?
2. How is the social structure of science supposed to help solve the underdetermination problem? Can scientists really correct each other in a productive way?
3. Does bringing a diversity in values, backgrounds, etc. make science more trustworthy? Or does this not matter at all? Or does it make matters worse?
4. Is trusting in science fundamentally different than trusting a plumber or an electrician? What about trusting that a plane will fly? If we trust that a plane will fly enough to get in one, does that mean that we should trust scientists when they say that the Big Bang occurred 13.7 billion years ago? (or some other scientific claim that doesn't seem particularly connected).
5. What does it mean to trust science? What does 'trust' mean? What counts as 'science' here? [for example, we know that scientific claims can't typically be proved with certainty, there are different kinds of science – settled vs. new, majority vs. consensus, different sources like a single paper, a review paper, a panel recommendation, a textbook, etc.]
6. Is it possible for a lay person to know who should count as a scientific expert worthy of trust? How? [and who is worthy of trust??]
7. How do various incentive structures affect whether we should trust science? For example: scientists want to be famous and get published, they need jobs, often scientific research comes at a steep price and scientists need funding, funding definitely is related to the topic that you study and sometimes (arguably) to the results that you produce, etc.
8. You could look at one or more of the examples in Oreskes' Chapter 2 and examine it further. Is it really true that when we examine the limited energy theorem or the eugenics movement we can see that this was science that was not particularly trustworthy and that we can tell the difference between these and other cases that are supposedly trustworthy?
9. What exactly are we supposed to learn by examining the five cases in Oreskes' Chapter 2? Do they really all have similar things in common? Does these cases show that science is fundamentally NOT trustworthy?