

## Philosophy 20000: Introduction to Philosophy of Science

### Second (Final) Paper

#### Instructions

The paper (6–12 pages long) is due Wed., Dec. 10 in my office (Gates-Blake 228) by 4:30pm. (Gates-Blake is the building connected to Cobb. The time limit is there because they will lock the outside doors at some time not long after that.)

You should use some material from the second part of the course—i.e., Popper and/or Kuhn, and possibly also one or more of Popper’s critics (Neurath, Putnam, Lakatos). Most if not all of the topics will also allow you to bring in material from the first part (e.g. you could write on Carnap vs. Popper).

The first two suggested topics below are new; the others are modified versions of topics from the first paper. (The rest of these instructions are identical to the instructions for the first paper.)

The below topics are suggestions. If you want to write on another topic, feel free to do so. It might be a good idea, however, in that case, to check with me and/or Adam first.

The main focus of the paper should be, one way or another, on texts we’ve read for this class, though you’re welcome to use other material also (including especially the recommended reading) if it seems useful/relevant. If you do use outside sources, it should go without saying that you must cite them, and provide enough bibliographical information that I can figure out what they are. (For sources from the required or recommended reading, title and page number should be sufficient.)

I recommend an attempt to understand/explain/make sense of the views of the authors we’ve read, rather than, say, an attempt to make an argument of your own against them. (I recommend this *particularly* if one or more of these authors rubs you the wrong way or seems obviously wrong or uninteresting.) All of the suggested topics below are along those lines. This is only a recommendation, however: I suspect that an effort in this direction is most likely to produce a good paper, but if you think you have a good idea along other lines, go ahead and try it.

## Suggested Topics

1. What, according to the authors we've read, is the relationship between (some or all of): (1) science; (2) philosophy of science; (3) philosophy (in general); and (4) history of science? Are some just subfields of the others? What, if at all, distinguishes one from the other(s)? Subject matter? Methodology? Something else? Which need or can use the results of which other(s) to do their work? Which is most rational, most authoritative, most free? Which do our authors take themselves to be doing and why?
2. A related issue (but not exactly the same): from what, according to our authors, is science to be "demarcated"? To what field or discipline does it belong to make this demarcation, and/or from what point of view do we make it, and/or who is authorized or has the requisite knowledge or ability to make it? How can we tell if the demarcation has been made correctly or not, and/or in what terms can we criticize a suspect or incorrect demarcation? Why, if at all, is such demarcation important? (E.g., what characteristics of science make it important that we not confuse it with something else?) Would something go wrong if we made the demarcation incorrectly or not at all, or is this just a matter of intellectual interest?
3. In class a long time ago I mentioned the following four popular philosophical doctrines: (1) naturalism—roughly, that science is the best or only source of knowledge, so that, if philosophers want to know something, they should ask science (in the context of the second part of the course one *might* want to say, instead: that science is the only method or type of activity by which one can aim, rationally and/or with well-founded expectations of success, at obtaining knowledge, or at discovering something new); (2) physicalism—roughly, that everything (every object, property, event, and/or law) is physical (is a physical object, physical property, physical event, physical law); (3) empiricism—roughly, that all our knowledge comes from experience; (4) scientific realism—roughly, the doctrine that the things science says exist are the things that really exist. Pick at least one of these and explain what it means (and doesn't mean) for one or more of the authors we've read.

(A few possible ways to make this interesting: show, for example, that the disagreement between two authors who disagree is really a disagreement over the correct interpretation of one of these doctrines, or that one of them pulls a particular author in more than one direction (leading to tension or incoherence), or that two of these doctrines which seem to go together (and/or which do go together for some of the authors we've read) are really, according to some (other) author(s), diametrically opposed.)

4. Discuss the meaning of and/or relationship between some of the following things, according to authors we've read: (scientific) theory, observation(s), common or everyday knowledge, experience, sense data. How (if at all) do they define them? Which do they consider most certain/reliable, or more justified, or otherwise better, and why? Do they think that some of these things are not well defined, or not relevant to science, or don't exist at all? Which of them depend on or change along with our scientific theories, practices, standards, methodological decisions, and/or ways of "seeing"? How and on what grounds do our authors disagree with each other about these issues? (How, if at all, is it possible to disagree about the *definitions*? Can't everyone define the terms as he or she likes? What would our various authors say about that?)
5. A more general suggestion, which to some extent overlaps with some of the above: pick a difference or debate between two authors and explain what the *real* disagreement is (as opposed to what one might have thought it was). You can try to decide who "wins," if you want, but I don't particularly recommend this.
6. What was really important to Popper, and what wasn't? How does this explain the adjustments in his project as time went on, and/or his response to (one or more of) his critics? To write on this you should probably look at least at Popper's responses to his critics and/or to Kuhn in *The Philosophy of Karl Popper*, ed. Schilpp (on the recommended reading list and on reserve at Regenstein, parts also on e-reserve). (You could also try doing the same thing with Kuhn—the "Postscript" to *SSR* might be useful here, but I'll try to suggest some more stuff if people are interested.)
7. Carnap was an Old Left democratic socialist, Neurath was a Marxist, Quine was an extreme right wing conservative (though, I've been told, perhaps not so extreme earlier on), Putnam was (in the period when he wrote "What Theories Are Not") a New Left activist, and Popper was a anti-Marxist liberal democrat (probably more information than you want on that is available in his books, *The Poverty of Historicism* and *The Open Society and Its Enemies*). (I'm trying to track down some information on Kuhn's politics; I'll let you know if and when I turn something up.) Discuss the relationship between the political views of these authors (i.e., one or more of them) and their views in philosophy of science. (I hinted at some things about this in class, but there's a lot more to be said.) (Note: to do this well you need to understand and deal carefully with the philosophy of science aspect, not just take off on the politics.)