# Philosophy and Science

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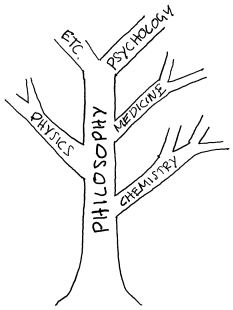
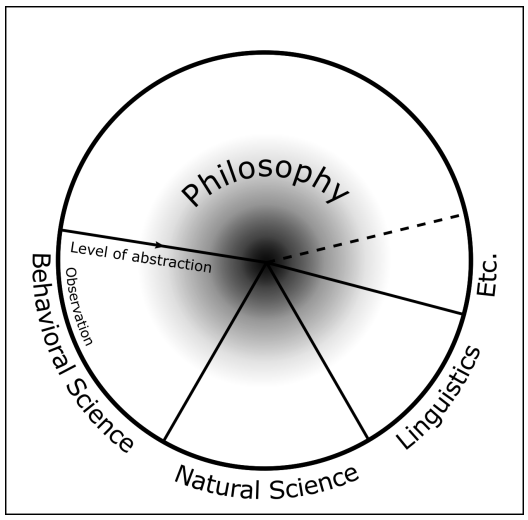
*This post was originally a thread on Twitter.*

A recent conversation led into the issue of the "gap" between the discourses of practicing scientists and philosophers, and also of the value in general of philosophy for science. Here are some semi-random thoughts on that, aimed toward non-philosophers. They're not deep or heavy thoughts, I'll keep things straightforward. They will also betray my naturalistic leanings—not shared by all philosophers.

I'll start with how I place philosophy relative to science very broadly. Here's a picture of how I *don't* think that philosophy relates to science in general.




On this sort of view the "special sciences" depend on our basic beliefs about being, experience, knowledge, etc. If your philosophy is weak, it clearly can't carry your science. So no point caring about science until you've solved at least the most important metaphysical problems!

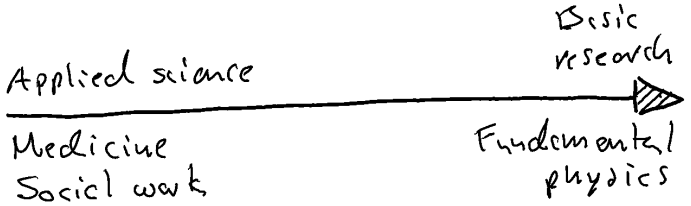



Naturalism with regards to philosophy turns things around. This picture makes 3 points:

1. Philosophy can depend on science.
2. Philosophy is continuous with science, on a scale of abstractness.
3. As questions get more abstract/philosophical, they become more general/similar between disciplines.

(Also: philosophy is a black hole.) On the naturalistic view, it's expected that some scientists are engaging with philosophical questions (such as what sorts of things exist within their theoretical domain), and philosophers can't afford to ignore the practices and results of empirical science. Still, many of the questions that appear at the philosophical level have come up repeatedly from antiquity and throughout our intellectual history. Philosophers study that stuff—scientists generally don't as part of their education.

The naturalistic view also suggests a way in which different sciences relate differently to philosophy.



This is not the scale of abstractness, but has to do with the goals of a science, from a focus on utility to a focus on pure understanding of the world. The question, say, of whether out best theories truthfully describe the world is irrelevant to a clinical researcher trying to find an effective treatment, but very relevant to a string theorist who doesn't imagine much in the way of practical applications for string theory. Thus, philosophical questions tend to force themselves on scientists to different degrees depending on their goals, and philosophy may look differently useful(!) by the same measure.

The applied sciences do touch many contentious issues in philosophy, most obviously that of the nature of causation and causal knowledge. (Also ethics.) But, apart from some contributions on method (more below), I think the influence here is mainly from sci. to phil. Academic training forms our expectations on what questions are worthwhile. I think different scientific disciplines are differently "primed" for philosophical questions. But this is a matter of personal disposition too, of course.

When someone asks of the relevance of phil. to science, the expectation often seems to be of examples of philosophers making an appearance in day-to-day science. This happens—here are som examples.

A lot of collaboration goes on between philosophers and scientists in interdisciplinary projects. An example from my own department is a project about "knowledge resistance," involving e.g. philosophers, psychologists, and social scientists: Knowledge Resistance (link)

One of the preeminent occupations of philosophers is the clarification of concepts. (That's semantics!) It has been argued that such work has lead directly to new ways of formulating scientific questions and designing experiments: Why science needs philosophy (link)

The work on causal inference theory by Spirtes, Glymour, and Scheines is seminal in that area, and an example of philosophers contributing to the methods actually employed by scientists (rather than to a more abstract understanding of those methods): Causation, Prediction, and Search (link)

Philosophers do make an appearance in day-to-day science, and that's a good sign I think. But, ultimately, the legitimacy of philosophy doesn't hinge on this. Philosophy is mostly basic research, defensible on the same grounds as other basic research. Its perceived irrelevance to some other context doesn't imply its irrelevance tout court. Philosophy is also utterly unavoidable, as long as we keep trying to understand our world at all.

I've said little about what philosophers do or what they are good at. There are more philosophers, doing more things, than ever. For a sense of what philosophers

do, I suggest a visit to PhilPapers (link), where articles can be browsed based on topic.

I'm not sure if this is useful to anyone. As to cross-disciplinary communication, I think that I need to understand something of the ordinary work and reasoning of scientists—I'm okay with that being a one-way street if you are. But there may be questions at some point, about the interpretation of theories, or the conditions for knowledge, or the theory-ladenness of observation, or some such—and when that happens we are here for you.

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