PHIL 76500: Science and Values

Course Description

What role do values play in science? And is there a difference between epistemic values and moral, political, and social values in this regard? According to one longstanding attitude in philosophy of science, non-epistemic values ought to play no role in the conduct of science. But influential critiques of this traditional conception, undertaken primarily by feminist philosophers of science, argue that non-epistemic values do have a constructive role to play in various aspects of science, notably scientific theory choice in cases of underdetermination of theory by evidence. If that is the case, do non-epistemic values also have a role to play in other aspects of the scientific enterprise, for example in the construction of theories, devising of theoretical categories, acceptance of theoretical hypotheses, experimental testing of theories, choice of research topics, and so on? Can we distinguish the salutary influence of non-epistemic values on science from pernicious influences? Can we even clearly distinguish between epistemic and non-epistemic values, and if so on what basis? Is there a difference in how this issue plays out in the natural and social sciences? This course will examine (mainly) recent work on these topics by philosophers of science and others, with particular attention to case studies drawn from a diverse range of sciences, from climate science to medicine.

Course Requirements

Presentations (20%): You will be asked to give two presentations on the course readings. You should choose a few articles that you're especially interested in after the first session and I'll make an effort to see that everyone gets two of their top choices, with presentations starting in the second or third week of the semester. These presentations will be short (10-minute) overviews of the reading, which will launch us into a discussion, rather than attempts to give a comprehensive account of the reading in question. In the final session of the course, we will have a condensed mini-conference based on your term papers. You will be asked to give a short presentation (5-10 minutes) on your term paper, and it will be followed by a short Q&A. I realize that this is too quick to get high-quality feedback, but it can be a good exercise to try to summarize your main argument very briefly and to respond to immediate feedback from colleagues.

Short response papers (20%): You will be expected to submit 10 reading responses (200-300 words) on 10 of the readings covered in class, after the reading has been discussed in class. These responses will be due 48 hours after class (by 5 pm on Wednesday) and each will develop a point in one of the readings, or raise an objection, or otherwise meaningfully engage with the reading in question. Your response can be based on issues discussed in class but should go beyond class discussion in some way. These response papers cannot be submitted late unless there are documented extenuating circumstances.

Draft term paper (20%): Around halfway into the semester, I'll propose some paper topics and will also invite you to come up with topics of your own. Once we've mutually agreed on a topic, you'll have around two weeks to submit a short paper (roughly 2500-3000 words) on that topic. This will be a first draft of your term paper for the course.

Revised term paper (40%): At least two weeks before the end of the semester, I'll return your draft paper with comments and suggestions for development. You will then revise it and expand it into a term paper for the course (roughly 5000-6000 words), which will be due at the end of the semester.

Course Schedule

NB: A little less than half of the readings for the course are from the volume: Elliott, K. C. & Steel, D. (eds), *Current Controversies in Values and Science*. Routledge, 2017, which we're reading in its entirety. I haven't ordered it at the bookstore but I would encourage you to get a copy. If you don't want to buy it, I've also ordered an electronic copy for course reserves. We'll be using it as of February 28. All other readings will be made available via Blackboard. We'll also be using Blackboard to post reading responses, so please try to familiarize yourself with it if you haven't used it before.

Week 1 (Jan 31): Biased Science

Cordelia Fine, *Delusions of Gender* (Norton, 2010), Chapters 11-13

Henry Louis Gates & Andrew S. Curran, "Inventing the science of race," *New York Review of Books*, December 16, 2021

Week 2 (Feb 7): Precursors to the Debate

Rudner, R. (1953). The scientist qua scientist makes value judgments. *Philosophy of Science*, *20*(1), 1-6.

Levi, I. (1960). Must the scientist make value judgments? *Journal of Philosophy*, *57*(11), 345-357.

Week 3 (Feb 14): Epistemic, Cognitive, and Social Values (1)

Longino, H. (2008). Values, heuristics, and the politics of knowledge. In Carrier, M., Howard, D., & Kourany, J. (eds), *The Challenge of the Social and the Pressure of Practice: Science and Values Revisited*. University of Pittsburgh Press.

Douglas, H. (2013). The value of cognitive values. *Philosophy of Science*, *80*(5), 796-806.

**** Holiday (Feb 21) ****

Week 4 (Feb 28): Epistemic, Cognitive, and Social Values (2)

Lacey, H. (2017). Distinguishing between Cognitive and Social Values. In Elliott, K. C. & Steel, D. (eds), *Current Controversies in Values and Science*. Routledge.

Rooney, P. (2017). The borderlands between epistemic and non-epistemic values. In Elliott, K. C. & Steel, D. (eds), *Current Controversies in Values and Science*. Routledge.

Week 5 (Mar 7): Epistemic Priority (1)

Elliott, K. C., & McKaughan, D. J. (2014). Nonepistemic values and the multiple goals of science. *Philosophy of Science*, *81*(1), 1-21.

Intemann, K. (2015). Distinguishing between legitimate and illegitimate values in climate modeling. *European Journal for Philosophy of Science*, *5*(2), 217-232.

Week 6 (Mar 14): Epistemic Priority (2)

Steel, D. (2017). Qualified epistemic priority: Comparing two approaches to values in science. In Elliott, K. C. & Steel, D. (eds), *Current Controversies in Values and Science*. Routledge.

Brown, M. J. (2017). Values in science: Against epistemic priority. In Elliott, K. C. & Steel, D. (eds), *Current Controversies in Values and Science*. Routledge.

Week 7 (Mar 21): Inductive Risk (1)

Kuhn, T. S. (1977). Objectivity, value judgment, and theory choice. In *The Essential Tension*. University of Chicago Press.

McMullin, E. (1983). Values in science. In *PSA: Proceedings of the biennial meeting of the philosophy of science association* (Vol. 1982, No. 2, 3-28). Philosophy of Science Association.

Week 8 (Mar 28): Inductive Risk (2)

Douglas, H. (2017). Why inductive risk requires values in science. In Elliott, K. C. & Steel, D. (eds), *Current Controversies in Values and Science*. Routledge.

Betz, G. (2017). Why the argument from inductive risk doesn't justify incorporating non-epistemic values in scientific reasoning. In Elliott, K. C. & Steel, D. (eds), *Current Controversies in Values and Science*. Routledge.

Week 9 (April 4): Diversity (1)

Anderson, E. (2012). Uses of value judgments in science. In Crasnow, S. L. & Superson, A. M., *Out from the Shadows: Analytical Feminist Contributions to Traditional Philosophy*. Oxford University Press.

Intemann, K., & de Melo-Martín, I. (2014). Are there limits to scientists' obligations to seek and engage dissenters?. *Synthese*, *191*(12), 2751-2765.

Week 10 (April 11): Diversity (2)

Rolin, K. (2017). Can social diversity be best incorporated into science by adopting the social value management ideal? In Elliott, K. C. & Steel, D. (eds), *Current Controversies in Values and Science*. Routledge.

Intemann, K. (2017). Feminism, values, and the bias paradox: Why value management is not sufficient. In Elliott, K. C. & Steel, D. (eds), *Current Controversies in Values and Science*. Routledge.

**** Spring Recess: April 15-22 ****

Week 11 (Apr 25): Democracy (1)

Reiss, J., & Kitcher, P. (2009). Biomedical research, neglected diseases, and well-ordered science. *THEORIA. Revista de Teoría, Historia y Fundamentos de la Ciencia*, *24*(3), 263-282.

Anderson, E. (2011). Democracy, public policy, and lay assessments of scientific testimony. *Episteme*, *8*(2), 144-164.

Week 12 (May 2): Democracy (2)

Brown, J. R. (2017). Socializing medical research. In Elliott, K. C. & Steel, D. (eds), *Current Controversies in Values and Science*. Routledge.

Reiss, J. (2017). Meanwhile, why not biomedical capitalism? In Elliott, K. C. & Steel, D. (eds), *Current Controversies in Values and Science*. Routledge.

Week 13 (May 9): Values and Classification

Ludwig, D. (2016). Ontological choices and the value-free ideal. *Erkenntnis*, *81*(6), 1253-1272.

Reydon, T.A.C., Ereshefsky, M. (2022). How to incorporate non-epistemic values into a theory of classification. *European Journal of Philosophy of Science* 12(4),

Week 14 (May 16): Science and Indigenous Knowledge

Ludwig, D. (2017). Indigenous and scientific kinds. *British Journal for the Philosophy of Science*, *68*(1), 187-212.

Mazzocchi, F. (2018). Under what conditions may western science and indigenous knowledge be jointly used and what does this really entail? Insights from a western perspectivist stance. *Social Epistemology 32*(5), 325-337.

Week 15 (May 23): Presentations on Term Papers