

PHD THESIS SUMMARY:

Learning from ignorance: agnotology's challenge to philosophy of science

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The recent commercialization and privatization of scientific research has reconfigured the organization of science worldwide, fostering new scientific practices and new political tools to manage scientific research. Focusing on the mechanisms of ignorance production, the recent literature in *agnotology* has been a fruitful approach for understanding the social and epistemological consequences that emerge in commercialized science today. Strictly speaking, agnotology is the study of ignorance broadly conceived. Agnotology's innovative contribution to the studies of science stems from its treatment of ignorance as a social construction, one that differs from the traditional conception of ignorance as a natural vacuum (Proctor 2008). Agnotology has uncovered different ways in which the commercialization of scientific research has encouraged the production of ignorance, thus challenging the epistemic adequacy of the current social organization of science. Consequently, agnotology has made evident the need for a well-articulated normative approach capable of identifying and evaluating the epistemic concerns raised by the private funding and performance of science. Although philosophers of science have dealt with some of the social aspects of scientific knowledge production, they have yet to articulate an appropriate social epistemology that addresses these pressing issues. In my dissertation I take up this task.

The aim of my dissertation is twofold. First, I examine the epistemic and social problems emerging from cases of ignorance production to argue that agnotology poses a serious challenge for philosophy of science. Second, I draw a path for philosophers of science to address this challenge.

The dissertation is divided in five chapters. The introductory chapter describes some of the main challenges that philosophy of science has encountered in the past half century, i.e., the historical challenge posed

by scholars such as Thomas Kuhn and Paul Feyerabend, and the constructivist challenge posed by the Strong Program in the sociology of scientific knowledge and the social studies of science more generally, and then introduces agnotology as a new terrain, posing important questions for the philosopher of science. In the second chapter, I present the works of Philip Kitcher (2011) and Helen Longino (2002) as representative of a philosophy of science concerned with the social dimensions of scientific knowledge. I also give a historical account of the major changes that the organization of science has undergone in the past three decades with the move towards the commercialization and privatization of research. I then argue that Kitcher's and Longino's accounts of scientific knowledge have important limitations when evaluating the process of knowledge production in the commercialized framework in which scientific research develops today.

The third chapter examines the recent literature on agnotology, focusing on four cases: the tobacco industry's support of cancer research (Proctor 2011), the ongoing debate over global warming (Oreskes and Conway 2010), the pharmaceutical industry's design of clinical trials (Michaels 2008; Nik-Khah 2014), and economists' assessment of the financial crisis of 2008 (Mirowski 2013). I argue that scholars working on agnotology seem to hold implicit normative commitments that are in tension with their descriptive accounts of ignorance-constructive practices. Accordingly, and despite uncovering the limitations of the current organization of science, agnotology does not provide an appropriate normative account of the current production of scientific knowledge either. Further exploration into the normative aspects of agnotology is still needed.

In order to start addressing the challenge of agnotology, I build upon the contributions of philosophers of science to the science and values debate. Thus, the fourth chapter presents the science and values framework, describing the lines of argument that philosophers of science have used to understand the role of social and political values in scientific inquiry (e.g., Douglas 2009), as well as some of the main approaches in feminist philosophy of science that have used such a framework to understand the role of sexist and androcentric values in scientific research (e.g., Anderson 2004; Kourany 2010). I then argue that feminist philosophers of science faced challenges that are similar to agnotology's challenge, making feminist philosophy of science a particularly promising approach for our purposes.

In the fifth chapter, I analyze the challenge of agnotology in terms of the conceptual tools that the values approach have contributed to the discipline, emphasizing the importance of identifying the political values behind the current organization of science, as well as the resources available to the philosopher for theorizing the influence of such values in the production of scientific knowledge. My aim is to provide a sketch of a normative account capable of evaluating the ignorance-constructive practices previously identified, without dismissing the empirical facts regarding the organization of scientific research today. Accordingly, I argue for a naturalized social epistemology that endorses a contextualist view of scientific knowledge, understands the bi-directional influence of facts and values, and is explicit about its value commitments. This preliminary sketch opens the door for a broader philosophical project, the project of a politically informed philosophy of science. In the closing remarks, I present future directions in which this research should be further developed.

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