Models, Scientific Realism, the Intelligibility of Nature, and Their Cultural Significance

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Abstract:

In this article, I will view realist and non-realist accounts of scientific models within the larger context of the cultural significance of scientific knowledge. I begin by looking at the historical context and origins of the problem of scientific realism, and claim that it is originally of cultural and not only philosophical, significance. The cultural significance of debates on the epistemological status of scientific models is then related to the question of 'intelligibility' and how science, through models, can give us knowledge of the world by presenting us with an 'intelligible account/picture of the world', thus fulfilling its cultural-epistemic role. Realists typically assert that science can perform this role, while non-realists deny this. The various strategies adopted by realists and non-realists in making good their respective claims, is then traced to their cultural motivations. Finally I discuss the cultural implications of adopting realist or non-realist views of models through a discussion of the views of Rorty, Gellner, Van Fraassen and Clifford Hooker on the cultural significance of scientific knowledge.

Keyword: Models; Intelligibility; Scientific realism; Culture

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