

Mechanistic models in economics and the prospects for interdisciplinary integration

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Recent philosophy of science attributes several virtues to mechanistic models. Not only are mechanistic models considered explanatory, but they are also claimed to provide the scaffolding for the integration of knowledge across disciplinary boundaries. The idea is that since mechanisms span multiple levels, results obtained in different fields contribute to the mechanistic explanation of a phenomenon by providing constraints at different levels of the mechanism. In this paper I examine the role that field-specific norms about explanation play in shaping what counts as a genuine explanatory model. Although such norms typically originate from the demands of the characteristic subject matter, in the course of a field's development and its institutionalization, they often become definitive of its own identity in a way that is partly independent of the subject matter. Economics is a case in point: its characteristic style of explanation is applied to phenomena that do not necessarily share any substantive features in common with pre-theoretical conceptions of a typical economic phenomenon. By using examples of both intra-level integration involving economics and sociology and inter-level integration involving economics and psychology, I show that variations between fields concerning what count as genuinely explanatory models pose a serious obstacle to mechanistic integration. I then explore ways in which such obstacles can be overcome. I suggest that the ideal of mechanistic integration functions as an ontic constraint, the satisfaction of which is achieved through interdisciplinary triangulation. Properly understood, methodological triangulation works in spite of and even thanks to interdisciplinary variations of norms about explanation.