
How-kind-of actually Models

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Abstract

Session: Models & Mechanisms: Extending the Framework (Brett Calcott, Stuart Glennan, Arnon Levy, Tom Polger) It is a common practice in the biological sciences to study the behavior of mathematical models and computer simulations that contain highly unrealistic assumptions about the system that the model is supposed to represent. Can such models explain? A common suggestion is that such models should be thought of as how-possibly models. If, however, explanation requires that explanantia refer to the actual causes of some phenomenon, then such models cannot explain unless they bear some actual resemblance to the explanatory target. This means, to the extent that such models can be explanatory, they must be how-kind-of-actually models. I shall illustrate the use of such models by reference to agent-based models in ecology.

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