

Thought Experiments and the Inference to a Coherent Explanation

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Abstract

This talk proposes a solution to the "paradox of thought experiments": how seemingly new empirical insights are derived by "thought experiments" which are entirely conducted inside one's head, so to speak, without any new empirical import. Rather than the discovery of new facts the purpose of a successful thought experiment is to transform vague intuitions about nature into explanatory standards, which may be used later on as normative principles or formal constraints in the formation of new theories.

The author later wrote a Dr.-phil.-thesis on this subject: "Die Methode des Gedankenexperiments. Untersuchung zur Rationalität naturwissenschaftlicher Theoriereformen." (Bremen University, submitted October 5th 2001, summa cum laude) an abridged version of which has been published in the book: Ulrich Kühne, Die Methode des Gedankenexperiments. Frankfurt am Main: Suhrkamp Verlag 2005. 410 pages, ISBN: 978-3-518-29342-3.

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