

The Role a Concept Plays in Science - The Case of Homology

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Abstract

The present paper gives a philosophical analysis of the conceptual variation in the homology concept. It is argued that different homology concepts are used in evolutionary and comparative biology, in evolutionary developmental biology, and in molecular biology. The study uses conceptual role semantics, focusing on the inferences and explanations supported by concepts, as a heuristic tool to explain conceptual change. The differences between homology concepts are due to the fact that these concepts play different theoretical roles for different biological fields. The specific theoretical needs and explanatory interests of different research approaches lead to different homology concepts.

Keywords: concepts, conceptual change, homology

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