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Rethinking Machine and Organism: A Philosophical Inquiry into AI

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Marvin Minsky, one of the pioneers of AI research, defined AI as "the science of making machines do things that would require intelligence if done by men."This definition establishes a direct link between AI and machines, leading us to explore the role of machines in the history of philosophy. In his posthumous treatise, Descartes linked machines and organisms kinematically and mechanically to explain organisms. This Cartesian approach assumes that understanding and explaining organisms require using machines subject to physical/natural laws. In the 20th century, French philosopher Georges Canguilhem criticized the Cartesian approach, suggesting that the relationship between machines and organisms should be reversed. He proposed understanding machines within the framework of mechanism and finalism. This shift in perspective opened new horizons for robotics, mechanics, programming, and computer sciences. According to Canguilhem, unlike the Cartesian view, organisms exhibit self-building/self-creating self-preserving, self-organizing, and self-repairing characteristics. Today, there is significant effort to develop machines with these features, especially in AI, where we expect machines to simulate or possess these traits. Thus, we must question whether the AI-human intelligence relationship is still based on the traditional Cartesian approach. While AI research strives to bring AI closer to human intelligence, the relationship between AI and human cognition does not entirely align with Cartesian understanding. However, this question is complex and not easily answered. Accepting William Rapaport's terminology for AI as computational cognition and considering the Church-Turing Thesis, we must explore whether cognition is computational. This fundamental philosophical question in computer science shapes our understanding of AI and human cognition. The distinction between computation, computable, and computational highlights that while cognitive behaviors may be computable, the question itself encourages a traditional Cartesian approach. AI studies aim to align machines with human cognitive abilities, but this alignment brings the human mind closer to the computational framework.

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