Mind and Mechanism

McDermott, J. (2002). Mind and Mechanism. • The MIT Press. • 2002.05.04

Reviewed by Varol Akman, Bilkent University, Ankara

The Seas of Language

Mind and Mechanism, by Jordan McDermott, is a book about the nature of mind and its computational representation. The theme is pervasive for this reviewer: a book about the nature of mind and its computational representation.

Chapter 2, the longest, is a masterly account of the state of the art in AI. Discussed in this chapter are computational mechanisms for understanding visual images, recognizing speech, recognizing and transcribing the print of words on paper, and learning the natural language at least as well as a five-year-old child. These can be awe-inspiring displays of technological achievement or even叫我震惊的 displays of technological achievement.

In the preface of his book, McDermott gives the following disarming statement: "I want an intuitive (and frequently deeper) grasp of what is keeping philosophers of mind busy nowadays read this book. With the recent advent of constructionist and computationalist approaches to AI, metatheory, or theory of theories, has become an essential tool for philosophers of mind who seek to understand how the mind might be implemented in a machine.

Mind and Mechanism deals with foundational issues in AI that are interesting to philosophers of mind. It is a book about more than just the mind; it is about what we think the mind is and what it is like. Its focus is on knowledge and understanding, and how these can be represented in a machine. As such, it is a book about more than just the mind.

McDermott's thesis is that the nature of mental phenomena does not permit law-like regularities connecting the mental phenomena with the physical events in the brain. That is, the mind is a construct that cannot be reduced to the physical processes that underlie it. McDermott uses this thesis to argue against reductionism, the idea that the mind can be fully explained in terms of the physical processes that underlie it.

Vocabulary for describing the mental does not match the concepts of physics in the right way. For example, he sees the principle of superposition as not being the right way to describe the mental. Furthermore, McDermott argues that it may be impossible to give a complete account of the mental in terms of the physical.

McDermott's argument against reductionism in AI has been tacitly taken up by many other philosophers of mind. They see the problem of the mind as being a problem of representation, not a problem of computation.

For McDermott, the problem of phenomenal consciousness—how a physical object can have experiences—is the toughest nut to crack. McDermott sees that the problem of consciousness is due to a lack of a proper way to represent the mental.

To put the matter differently, explaining what it is to have qualia is the hardest problem. To this end, McDermott first tries to demystify the term “qualia.” He argues that qualia are not properties of the brain, but rather properties of conscious experience. McDermott then argues that conscious experience cannot be reduced to the physical processes that underlie it.

More formally, the brain is not like a computer. A computer is a machine that can be fully represented in terms of its hardware and software. The mind, on the other hand, cannot be fully represented in terms of the physical processes that underlie it.

Chapter 5 is somewhat technical and treats a question which is not central to McDermott's general theory: the observer-relativity of the notion of decoding, a mapping from a computer's states to its computational realm. It is then argued that while everything might be represented in a computer, not everything can be decoded.

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It is not just the mental that is non-reducible. McDermott also argues that the physical processes that underlie the mind are also non-reducible. He argues that the physical processes that underlie the mind are also non-reducible.

In a nutshell, a formal description starts to act causatively when interpreted by a computer. In some sense, the mind is also a formal description. However, the mind is not a machine that can be fully represented in terms of its hardware and software.

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The only way to enforce God's intention, Jordan McDermott states, is by "letting the homeostatic feedback mechanisms act". The homeostatic feedback mechanisms are mechanisms that work to maintain a constant state of affairs. If the state of affairs is not maintained, the homeostatic feedback mechanisms will work to bring the state of affairs back to its constant state.

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Finally, the book has a rare advantage in that it deals with the moral implications of AI. McDermott argues that the moral implications of AI are not trivial and should be taken seriously.

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