

## The Mark of the Mental

John McCarthy, the inventor of the term "artificial intelligence", likes to suggest (perhaps somewhat jokingly) that even devices as simple as thermostats have beliefs. According to him, a simple thermostat has, at any given time, one of the following beliefs: it's hot in here, it's chilly in here, and it's just comfortable in here.

But what is a belief anyway? How does it acquire the content it has (e.g., that it's chilly in here)? These questions cannot really be answered without clarifying the concept of "a mechanism with a mind". What conditions must be satisfied by a mechanism (say, a computer or a robot) before we can attribute a mind to it? Obviously, the essence of this problem concerns the relation between mental and physical properties. After all, a robot is an inorganic electro-mechanical device, and it is possible to multiply the questions: Can it feel pain? Can it exhibit emotions like fear or anger? Can it develop a taste for Batman movies? Can it decide to spend the next summer in Greenland?

Such questions have essentially been the subject matter of the philosophy of mind. A central problem of this discipline -- probably first thought by Descartes in its present form -- is the "mind-body problem". This is the project of elucidating the relationship between our mentality and the physical foundation of our body. How can a biological/physical system such as a human body have beliefs, desires, intentions, and so on? Physicists have persuasive reasons to make us believe that ours is a material world (of particles at the bottommost level) and obeys physical laws. Once we commit ourselves to this worldview, it sounds quite puzzling -- even mysterious -- that there is a place for minds in such a material world.

Donald Davidson, probably the greatest living American philosopher, has worked out an ingenious answer to this puzzle. His is a famous but difficult argument and cannot be done justice in this brief outline.

Basically, Davidson takes it for granted that the essential properties of matter as described by physicists are the only properties we have. Thus, he subscribes to some form of materialism. However, he thinks that one can be a materialist while also asserting that mental cannot be "reduced" to the physical. Assume that you have complete knowledge in front of you of your brain and any relevant neuro-physiological systems.

According to Davidson, this knowledge cannot constitute a knowledge of your beliefs, desires, intentions, etc. This he maintains without really taking a dualist stance, that is, without assuming that your mind has a separate kind of existence. Rather, his point is that our vocabulary for describing the mental do not match the concepts of physics in the right way. For example, he sees the principle of rationality and coherence as a most crucial aspect of the mental (especially belief), and upholds that this principle has no echo in physical theory. (On a similar note, John Searle once quipped: "Weather concepts such as "partly cloudy in London" are not systematically related to the concepts of physics.") Davidson's thesis is that the nature of mental phenomena does not permit law-like regularities connecting the mental phenomena with physical events in the brain (in contrast to eliminative behaviorism which suggests such a possibility). In his own words: "There are no such things as minds, but people have mental properties, which is to say that certain psychological predicates are true of them. These properties are constantly changing and such changes are mental events."

(Prof. Varol Akman, CS)

Suggestions for further reading:

1. John Searle. Minds, Brains, and Science (1984). [Published by Harvard University Press, Cambridge, Massachusetts]
2. Haldun Özaktaş. "Yapay Zeka: Bilgi Çağında Akıl-Beden Sorunu". Cogito 13: 77-85 (1998). [Published by Yapı Kredi Kültür Sanat Yayıncılık]

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