



Encyclopedia of the Mind

Mental Causation

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Mental causation is the causation of physical effects by mental causes. The paradigm case of mental causation is the causation of someone's bodily movement by a mental state or event of hers. The belief that mental causation exists is deeply rooted in common sense. It seems uncontroversial to say, for instance, that a sudden pain caused Jones to wince, or that Smith's thirst caused him to have a drink. Nevertheless, explaining how the mind can have physical effects has proven a challenge for philosophers of mind. For physical effects already have physical causes, which threatens the claim that they also have mental causes. The problem is most pressing for positions according to which the mind is not itself physical. However, recent decades have also seen a debate over whether the view that the mind is physical can adequately explain mental causation.

History

The existence of mental causation was generally considered uncontroversial by ancient philosophers. For instance, both Plato and Aristotle, although differing in their views about the nature of the mind, held that agents' mental states need to be invoked in order to give causal explanations of some of their bodily movements.

The modern debate about mental causation can be traced back to René Descartes and the controversy about his theory of the mind. Descartes held that minds and bodies are two radically different kinds of substance: Minds are substances that are thinking and not spatially extended, whereas bodies are substances that are spatially extended and not thinking. (By a substance in general, Descartes understood something that exists and whose existence does not depend on anything else.) In correspondence, Princess Elizabeth of Bohemia complained to Descartes that she found it unintelligible how his theory could allow minds to cause the motion of bodies. She held that bodies could only be moved by things in spatial contact with them, which ruled out minds as causes of bodily movements because they lacked the required spatial attributes. Although he never resolved the dispute with Princess Elizabeth, Descartes later developed a theory that identified the pineal gland as the locus of mind-body interaction. By moving the pineal gland, he claimed, the mind affects the motion of our animal spirits (an air-like kind of matter), which communicate the impulse to our muscles via the nerves.

Gottfried Wilhelm Leibniz criticized Descartes' position for being at odds with physics. He held that the law of conservation of momentum was violated if minds affected the motion of bodies in the way envisaged by Descartes. Leibniz's own position denied mind-body interaction altogether. According to his view, different substances never interact, but God created them so that their histories unfold independently in perfect, preestablished harmony.

The Argument from the Causal Completeness of the Physical

In the 21st century, virtually no one endorses Leibniz's doctrine of preestablished harmony or Princess Elizabeth's conception of the motion of bodies. Still, most contemporary philosophers share the spirit of their objections to Descartes, which demands that mental causation fit into our picture of the physical world. One element of this picture is the principle of the causal completeness of the physical, which says that every physical effect has a physical cause (this principle is also called "causal closure of the physical"):

Completeness: Every physical event that has a cause has a physical cause.

Completeness is the starting point for an influential argument about mental causation. It seems that if an event has a physical cause, this cause is sufficient to bring the event about, which rules out that any nonphysical causes are involved. This idea is expressed by the following principle:

Non-redundancy: If an event has a physical cause, it does not have any nonphysical causes.

We may add to our assumptions the commonsensical view that some mental events, such as Jones's pain or Smith's thirst, have physical effects:

Mental causes: Some mental events have physical effects.

From completeness, non-redundancy, and mental causes, it follows that some mental events, namely those that have physical effects, are physical causes and thus are themselves physical events. Because it is implausible that there should be a difference in kind between those mental events that have physical effects and those that do not, the conclusion generalizes to the claim that all mental events are physical events.

Objections to the Argument

If one denies the conclusion of the argument from completeness, non-redundancy, and mental causes, one has to reject at least one of its premises. If one rejects mental causes, one has to hold that no mental events have physical effects; this view is called epiphenomenalism. Accepting epiphenomenalism comes at a price, as it requires abandoning the intuitively plausible claim that some of our mental events cause bodily movements. This has far-reaching consequences: Given that performing intentional actions requires that intentions and desires cause bodily movements, it follows from epiphenomenalism that we never perform intentional actions.

Whereas completeness seems to have a good standing, some philosophers have taken issue with the assumption of non-redundancy. Defenders of non-redundancy typically reply that giving up non-redundancy means accepting that some physical events are overdetermined by physical and nonphysical events; it is implausible, they hold, that overdetermination is so widespread a phenomenon as accounting for all cases of mental causation would require. Whether such widespread overdetermination would be objectionable is a matter of controversy. The issue is complicated by the fact that overdetermination can be read in two ways. It can either simply mean that an effect has two causes, or it can refer to a case with a specific causal structure analogous to the case of a firing squad, where two shots are individually sufficient to bring about the victim's death.

Physicalism

If one accepts the generalized conclusion of the argument from completeness, non-redundancy, and mental causes, one has to accept the claim that all mental events are physical events. This claim can be spelled out in different ways.

Type Identity

According to the type identity theory, every type of mental event is identical to a type of physical event. For instance, a proponent of the type identity theory might hold that pain is identical to a certain type of neural event. The type identity theory has been criticized for reasons independent of mental causation. It seems that mental events are multiply realizable. For instance, for some animals, pain may coincide with a physical event that is of a different type from the neural event occurring in humans when they are in pain; there might even be possible beings that can be in pain while their physiology differs radically from that of any animals we know. Multiple realizability contradicts the type identity theory. For if pain is identical to a certain type of neural event, pain and this neural event are one and the same type of event, so that, necessarily, if a pain event occurs, so does an event of the neural type.

Token Identity

Instead of accepting the type identity theory, one may opt for the weaker theory that identifies each token mental event, that is, each particular occurrence of a mental event, with a given token physical event. This so-called token identity theory allows for multiple realizability, since the different tokens of pain events, say, may be identical to token physical events of different types.

The most influential token identity theory has been Donald Davidson's theory of anomalous monism. While

identifying token mental events with token physical events (hence “monism”), Davidson denies that there are strict laws relating the mental and the physical (hence “anomalous”). He holds that causation requires strict laws, and that token mental events can be causes or effects because they fall under physical descriptions and hence are subject to the strict laws of physics. It has been objected against anomalous monism that, while it allows token mental events to be causes, it does not explain how token mental events can be causally efficacious by virtue of their mental properties. It has been argued that because it is only mental events’ physical properties that matter for their causal relations, according to anomalous monism, their mental properties, such as the property of being a pain event, are rendered causally irrelevant.

Supervenience

Currently the most common view according to which mental events are physical events is supervenience physicalism. In a standard formulation, this view says that whenever a mental event of a certain type occurs, this is by virtue of the occurrence of some type of physical event that necessitates the occurrence of the mental event. Like the token identity theory, supervenience physicalism is compatible with the multiple realizability of mental events. For it is consistent with supervenience physicalism that different occurrences of a certain type of mental event are due to occurrences of different types of physical events, provided that an event of the mental type could not have failed to occur given the occurrence of an event of any of these physical types.

With respect to mental causation, supervenience physicalism faces the so-called exclusion problem. Suppose that a certain mental event occurs. Given supervenience physicalism, this occurrence is due to, and necessitated by, the occurrence of some physical event. It seems that any putative physical effects of the mental event will already be caused by the physical event. This, however, calls the causal efficacy of the mental event into question. The rationale behind the final step of this argument resembles the non-redundancy principle: If a physical effect already has a physical cause, other events simultaneous with this cause seem to be rendered causally irrelevant. Some philosophers accept that the exclusion problem makes mental events causally irrelevant if supervenience physicalism is true. Others contend that, unlike in the case of physical versus nonphysical events, supervenient mental events do not compete with their underlying physical events for causal efficacy. The latter philosophers are often motivated by a desire to prevent generalized epiphenomenalism. For if the exclusion problem is genuine, it generalizes beyond mental events and threatens the causal efficacy of other entities that plausibly supervene on the physical, such as the events and properties described in chemistry and biology.

Content Externalism

A further problem of mental causation arises for the widely held position of content externalism, according to which some mental states and events have contents that depend not merely on what is going on in the subject’s head but also on the subject’s environment. For instance, a content externalist might hold that the content of Smith’s belief that he is holding a glass of water is partly due to the fact that Smith has been in causal contact with water in his environment. It seems desirable to be able to say that contentful mental states and events can have physical effects and that their contents play a role in their causal efficacy. However, on the face of it, it seems that the causes of an agent’s bodily movements are internal to the agent and independent of the environmental factors relevant for the content of the agent’s thoughts. How content externalism might be reconciled with the causal relevance of mental content is a matter of ongoing controversy among philosophers of mind.

- supervenience
- causation
- identity theories
- pain
- efficacy
- mind and body
- motion

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See also

- [Anomalous Monism](#)
- [Anti-Individualism About Cognition](#)
- [Emergence](#)
- [Mind-Body Problem](#)
- [Physicalism](#)
- [Reductive Physicalism](#)

Further Readings

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