Non-reductive physicalism and overdetermination

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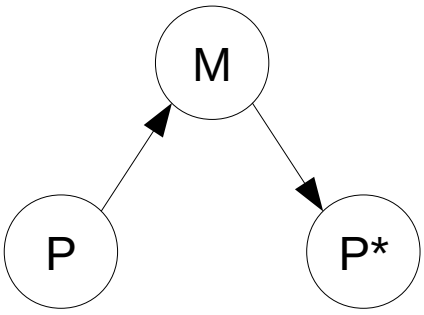
Abstract

I outline a critique of the dominant philosophical models of mind, and propose a version of non-reductive physicalism (or the uniqueness of mental properties) which not only withstands current arguments, but goes much further by offering an explanation for other phenomena humanity has taken for granted for the majority of its existence.

Substance Dualism

Substance dualism requires conscious mind to be separate from physical reality, having no expression in physical reality.

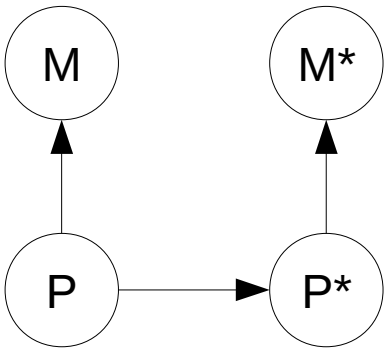


where the arrows (/ and \) indicate the path of causation in time, P represents the physical substance before a mental decision takes place, M represents the mental substance (mind), and P* represents the physical substance after the decision has been made.

Substance dualism may be disregarded by implication of the fact it is not compatible with current neuroscience. By assuming substance dualism (ie mind is purely non physical; it is not mapped to brain activity - asserted in non-reductive physicalism, neither is it a product of brain activity - asserted in epiphenomenalism), and that memories are stored in the brain (can be described as physical), ones memory of instances of their consciousness require the physical memory (brain) to be affected by non physical mind (requiring something such as a break down in physical law).

Epiphenomenalism

Epiphenomenalism proposes that one or more mental states (eg consciousness) are not causally reducible to physical states. Epiphenomenalism may be expressed as follows;



where the vertical arrows (↑) indicate causation outside of time, the horizontal arrows (→) indicate the path of causation in time, M represents one or more mental properties, and P represents one or more physical properties.

I will quickly disregard this view using Dennett's argument that if one or more mental states do not have any effect on physical states, and mental properties do not have any

expression in physical properties, how can we know that they exist (or have ever existed?) [1]

Physicalism

Physicalism requires all mental properties to be causally reducible to physical properties, such that the laws of physics (along with initial conditions) may provide a description for all known phenomena in this world.

There are direct consequences for our understanding of mind by assuming physicalism, one of which is that all human beings must possess mental properties.

Under physicalism one must either believe that anyone including oneself might be a zombie, or that no one can be a zombie – following from the assertion that one's own conviction about being (or not being) a zombie is a product of the physical world and is therefore no different from anyone else's [2].

The question remains as to the purpose of these mental properties (which humans believe exist) when a human being can be explained to operate in terms of its physical properties without them. Various forms of non-reductive physicalism have been proposed as a) models to allow for the existence of mental reality and b) explanations for some unique purpose of the mental (ie, that its existence does not just result in over determination).

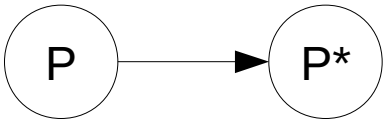
Reductive Physicalism

Reductive physicalism fails by definition to distinguish between an observer and

observation, denying any ontological distinction between mental and physical properties. Under reductive physicalism it is believed that, because our thought processes are subject to the laws of physics, they may ever only be referring to physical things when referencing themselves. It follows that zombies are not conceivable under the assumption of reductive physicalism. Under reductive physicalism, when a distinction is made in ones mind between a hypothetical zombie and oneself (assumed not to be a zombie), and noting that the concept of oneself under reductive physicalism may ever only correspond to physical reality, the concept of the hypothetical zombie can only be a subset of the concept of oneself and will in this nature also entail a deficit in observables (cognitive systems) thereby contradicting the original definition of a zombie.

No further discussion will be made regarding this philosophical model of mind, and it will be left up to the readers discretion as to how well this assumption compensates for human knowledge (or belief in their own unique existence).

Reductive physicalism may be expressed as follows;



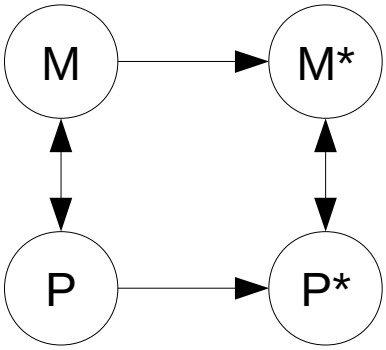
where the horizontal arrow (→) indicates the path of causation in time, and P represents one or more physical properties.

Non-reductive physicalism

Non-reductive physicalism is the view that mental properties cannot be reduced to physical properties, in that an ontological distinction lies between them, yet as still being a version

of physicalism, they can however be causally reduced to physical properties. Under non-reductive physicalism mental events are identical with physical events, where each mental event (and relevant physical event) consists of both one or more mental properties M and one or more physical properties P.

It has been seriously questioned in recent times as to whether there may be a valid non-reductive physicalism. [4] Kim Jaegwon's arguments may be summarised by illustrating the claims of non-reductive physicalism as follows;



where the vertical arrows (↕) indicate a one-to-one mapping (or causation outside of time), the horizontal arrows (→) indicate the path of causation in time, M represents one or more mental properties, and P represents one or more physical properties.

Under non-reductive physicalism a mental event consisting of a mental property M* and physical property P* has two causes (both M and P) - and the question remains how this situation may not represent a case of overdetermination. [3]

Various forms of Supervenience (requiring more complex or large scale yet still one-to-one mappings between mental and physical properties) have been proposed to offer some explanation as to how mental states may not be redundant. Some propose that by

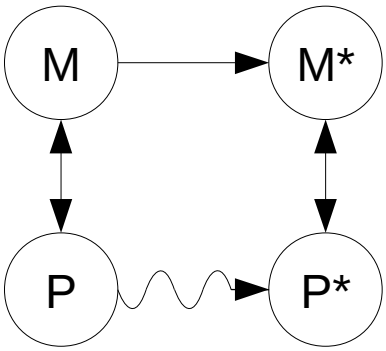
assuming large scale (or “coarse”) mappings between mental and physical properties mental properties may not be ontologically reducible to physical properties. [3] Others such as Donald Davidson in Anomalous Monism propose that by assuming complex mappings between mental and physical properties (“tokens”) for single categories (“types”) mental properties may not be ontologically reducible to physical properties. For example a single physical category (or “type”) with multiple physical properties corresponding to some physical phenomenon, are one-to-one mapped to mental properties of varying or arbitrary mental categories (“types”). Yet despite arbitrary mappings being defined between mental and physical “types”, these mappings between categories of physical and mental properties can never be known/determined as both the categorisation and mappings lie outside that of the physical universe. If these categories had a representation in the mental without having a representation in the physical, then this would imply epiphenomenalism, and be subject to the same arguments against it. If these categorisations had no representation in either the mental or the physical, then they are irrelevant to any claims of reducibility (or non-reducibility) between physical and mental properties.

It is argued in the paper, that these elaborate models may indeed be reduced to the above illustration, and therefore do not solve in themselves the problem of overdetermination (accepting Kim's argument that they merely propose either redundant mental properties or a more complex version of epiphenomenalism with unknowable mental properties).

Indeterministic non-reductive physicalism

I propose that non-reductive physicalism does not result in overdetermination if and only if physicalism is non-deterministic. As this is now the predominant view amongst physicists – see the Copenhagen interpretation of quantum physics (1927), or any other interpretation

which neither accepts hidden variables or multiple worlds - it is reasonable to apply it to philosophical models of mind and start working through the consequences of doing so. Note that this interpretation not only requires unknowable preconditions (Heisenberg's uncertainty principle) placing experimental limitations on our ability to determine the future (with limited knowledge of the past), but requires the processes of physical causation themselves to be intrinsically indeterministic. Note that hidden variable interpretations which assume physical determinism (but just limitations on observation) have been consistently denied through experimentation and have therefore been ignored for the purposes of outlining the possibilities assuming they are indeed incorrect. The parallel world interpretations will be ignored also.



If the causal link between P and P* is non-deterministic (ie, following a well defined probability law), then any mental event (consisting of a [or one or more] mental property M* and [or one or more] physical property P*) may be subject to the combined effect of both a mental and a physical property (M and P respectively). The causal determination due to a physical property in time is a probability wave function. The causal influence of a mental property may be guided by the causal influence of the physical property or probability function, but it may also exhibit some influence on the outcome of the probability function.

It has now been shown a version of non-reductive physicalism that offers an explanation for some unique purpose of the mental (ie, that its existence does not just result in over determination).

And Beyond

Assuming overdetermination is to be disregarded by taking the above version of non-reductive physicalism, then the probability of outcome in any given circumstance may therefore be subject to the degree to which a mental property is applied by a subject (such as the effort applied against a pain or stress barrier or breaking point), and the level of activity (rather than passiveness) the mental property possesses. Some qualia such as colour or “redness” have been proposed to be entirely passive, however we deny this proposal based upon Dennett's argument relating to the fact that we know about them – see Epiphenomenalism above.

This version of non-reductive physicalism in itself therefore describes one model of free will, in which mental volitions determine the outcome of probabilistic states on the quantum level – proposed by Robert Kane and others (including the author). [5]

Although it has been known for some time under physicalism (including non-reductive physicalism, and even epiphenomenalism when it is being rebuked), that zombies are metaphysically impossible, there has been little argument established to explain any purpose for mental properties (in that an alternate world could be envisaged in which observers did not follow from the existence of intelligent organisms).

It may be noted also, which has not been introduced earlier to maintain the flow and

highest possible extensibility of the argument, that the Copenhagen interpretation of quantum mechanics places the primary emphasis regarding the outcome of events on the observer, which provides additional explanation as to why a) mental states are not over determined, and b) free will as described may be integral to our observation of the universe.

In conclusion, the philosophical model of mind being proposed a) allows for the existence of mental reality by accepting non-reductive physicalism, b) provides a resolution to over determination by taking into account current understanding of the physical universe (indeterminism), and c) describes a purpose for mental reality – causation.

[1] Consciousness explained, Daniel Dennett, Little, Brown and Co, Boston, 1991

[2] The Unimagined Preposterousness of Zombies, Daniel Dennett, Journal of Consciousness Studies, vol. 2, no. 4, 1995, 322–326.

[3] Physicalism and Mental Causation (Kim on Overdetermination, Exclusion, and Nonreductive Physicalism), Paul Raymont (editor; Sven Walter and Heinz-Dieter Heckmann), Imprint Academic, Exeter, UK, 2003

[4] Physicalism, or something near enough, Kim Jaegwon, Princeton University Press , Princeton, N.J, 2005

[5] Four Views on Free Will (Libertarianism), Robert Kane, Blackwell Publishing, Oxford UK, 2007, page 39