

# Identity Theory

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The identity theory of mind attempts to provide a solution to the mind-body problem – the question of how the mind relates to the brain. In this essay, I will outline the merits of this theory, consider the effectiveness of the multiple realizability objection, and examine its consequences for the future of identity theory. I will argue that while this objection is unsuccessful in defeating identity theory outright, it *is* successful in weakening it to the point where functionalism can be considered a superior explanation of the mind-brain relation.

Identity theory attempts to explain the relation between the mind and the brain by asserting that mental states *are* physical states: the two are identical. This theory was established in the 1950s by U.T. Place, Herbert Feigl, and J.J.C. Smart to counter dualism: the belief that mental states were non-physical entities distinct from physical brain states. More specifically, they targeted the dualist theories of epiphenomenalism (that brain states cause mental states, but mental states do not cause brain states) and interactionism (that mental and brain states causally interact). Identity theory was considered a superior theory, as it was consistent with the broadly physicalist scientific worldview – that everything is physical or supervenes on the physical. The major advantage of this is that it avoids the ‘nomological danglers’<sup>1</sup> associated with dualism’s non-physical entities. These ‘danglers’ refer to occurrences which are not ‘explicable in

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<sup>1</sup> J.J.C. Smart, ‘Sensations and Brain Processes’, *The Philosophical Review*, 68/2 (1959), p.142.

terms of physics',<sup>2</sup> and thus require us to create new laws to explain their supposed existence. Not only this, by not needing dualism's extra non-physical classification of mental states, identity theory is also rewarded for its simplicity by Occam's razor – the principle that 'entities are not to be multiplied beyond necessity'.<sup>3</sup>

The objection I will evaluate is that of multiple realizability, which targets type identity theory. This main stream of identity theory holds that every *type* of mental state is identical to a *type* of physical state.<sup>4</sup> Putnam begins by outlining the conditions required for type identity theory to be true. In considering the example where 'pain' is a type of mental state, he claims that the identity theorist must locate the specific physical-chemical state that is 'pain', so that an organism can be in 'pain' if and only if (i) it has a brain capable of being in that physical-chemical state, and (ii) its brain is in that specific state.<sup>5</sup> Therefore, from these criteria, it would mean that organisms with different kinds of brain, such as humans, dogs and octopuses, could not be in the same specific brain state, and so could not all be feeling 'pain'. In addition, artificially intelligent robots, without brains, or Martians with brains made of an extra-terrestrial substance, also could not feel 'pain', as they did not seem likely to have brains capable of hosting this specific physical-chemical state. Yet, it seems that humans, dogs and octopuses can indeed feel pain, and it is imaginable that AI and aliens can potentially be 'possible pain realisers'.<sup>6</sup> Hence, Putnam argues that he has shown how one type of mental state ('pain') can be

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<sup>2</sup> J.J.C. Smart, 'Sensations and Brain Processes', *The Philosophical Review*, 68/2 (1959), p.142.

<sup>3</sup> 'Occam's razor', *Encyclopaedia Britannica* (2015) [www.britannica.com/topic/Occams-razor](http://www.britannica.com/topic/Occams-razor), accessed 26/04/2017.

<sup>4</sup> Steven Schneider, 'Identity Theory', *Internet Encyclopedia of Philosophy* [website], [www.iep.utm.edu/identity/](http://www.iep.utm.edu/identity/), para. 11, accessed 26/04/2017.

<sup>5</sup> Hilary Putnam, 'The Nature of Mental States' in Brian Beakley and Peter Ludlow (eds.), *The Philosophy of Mind* (Cambridge, MA: MIT Press, 1992), p.56.

<sup>6</sup> John Bickle, 'Multiple Realizability', *Stanford Encyclopedia of Philosophy* [website], (2013) [plato.stanford.edu/entries/multiple-realizability/](http://plato.stanford.edu/entries/multiple-realizability/), para. 6, accessed 26/04/2017.

multiply realised by distinct types of physical brain states. Type identity theory requires every kind of mental state to be identical to a specific kind of physical state. However, if a certain mental type can be achieved through several different physical brain states, it cannot, therefore, be identical to only one specific type of physical brain state. Hence, type identity theory is false.

In response, identity theorists reject Putnam's multiple realizability objection as they argue that he unfairly groups mental and physical states into differently sized types.<sup>7</sup> They claim that Putnam's objection uses on one hand, a very general set of criteria to identify 'pain' as a single type of mental state experienced by all sorts of creatures. On the other hand, however, he uses much more specific criteria to establish between types of brain state where the creature is in 'pain'. It is only through this inconsistent grouping that he is able to arrive at his one-to-many conclusion that one type of mental state can be realised by multiple types of brain states.<sup>8</sup> I believe that all a brain state needs in order to be part of a 'type' of brain state is a certain physical-chemical property that members of that 'type' share. In this way, Putnam is correct in distinguishing between different species' brain types when they are in 'pain'. This is because it is conceivable for two species, such as humans and Martians, to not share any physical-chemical properties in their brain states when in 'pain', because it is possible they have evolved in vastly different chemical environments. In my view, however, if these species are so different, it would also seem to follow that their mental experience of 'pain' will also differ.

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<sup>7</sup> William Bechtel and Jennifer Mundale, 'Multiple Realizability Revisited: Linking Cognitive and Neural States', *Philosophy of Science*, 66/2 (1999), p.202.

<sup>8</sup> Ibid.

The identity theorist can therefore defend his position by simply making the type of mental state more specific, for example, bringing it down to a 'species-specific' level.<sup>9</sup> This works by denying the existence of a general type of mental state ('pain') that is experienced by all species. In fact, the types of mental states are actually divided by species, so that there only exists 'human pain' and 'Martian pain'. As a result, because the brains of members of the same species are constructed similarly, it now becomes very likely that there can exist a certain physical-chemical property common to all humans experiencing the type of mental state now classified as 'human pain'. It follows that this common property enables all the variations in individual instances of brain states to be grouped as one 'type' of brain state, which is identical to the mental type being experienced – 'human pain'. The same goes for Martians. By specifying the mental type to the same level as the brain state type (in this case to the species level), the one-to-one relationship required between types of mental and brain states for type identity theory is formed. As a result, type identity theory still stands.

While the multiple realizability objection is not successful in disproving type identity theory, it is successful in weakening it. In order to subvert this objection, the identity theorist is forced to create further distinctions in defining the types of mental states, which is a highly complex process. For example, if the species level is taken to be specific enough to constitute a 'type', then every species (humans, octopuses, Martians, etc.) will have their own type of every mental state – pain, hunger, happiness, anger, and so on. When all this is done, we will end up with a system that does not allow for generalisation – we can no longer say that something is in pain: it is in its own species' type of pain. The

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<sup>9</sup> Thomas W. Polger, 'Identity Theories', *Philosophy Compass*, 4/5 (2009), p.827.

other stream of identity theory, token identity, is even more complex, as it contends that every instance of a mental state is unique and is a specific brain state, which will result in an infinite number of unique mental states and brain states. Therefore, in accommodating this objection, identity theory is weakened by complexity.

Functionalism, on the other hand, was proposed by Putnam along with the multiple realizability objection, and identifies mental states by what they do.<sup>10</sup> An example of this is that a wallet can be made of many different materials (leather, plastic, fabric) in many different designs (coin-holder wallets, travel wallets, bi-fold wallets), but they are all identified as a wallet because of their common function of carrying money. In this way, functionalism suggests that different instances of brain states – and indeed, different *types* of brain states – can all physically realise the same mental state, as mental states are classified into broad categories according to their function (e.g. ‘hunger’ has the function of making the person look for food). In this way, functionalism allows for a much greater deal of generalisation than identity theory.

Classifying mental states by their function rather than by a certain physical-chemical property (or each individual occurrence) is a much simpler process. Under functionalism, we are now able to describe a human’s hunger *and* a Martian’s hunger both as the general state of ‘hunger’. This spares us the hassle of going into complexities about specific types of hunger for each species, as type identity theory now requires. Therefore, when pitted against functionalism, this weakened form of type identity theory will lose out, much in the same way that it was able to claim superiority over dualism: having regard to the

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<sup>10</sup> Thomas W. Polger, ‘Functionalism’, *Internet Encyclopedia of Philosophy* [website], [www.iep.utm.edu/functism/](http://www.iep.utm.edu/functism/), para. 1, accessed 26/04/2017.

principle of Occam's razor. Both theories are scientifically plausible, but because it can accommodate the idea of multiple realizability without many of the complexities required by identity theory, functionalism is a better answer to the mind-body problem.

In this essay, I have shown that type identity theory can be qualified in such a way as to accommodate the multiple realizability objection. While identity theory is not defeated by this objection, I would conclude that it is weakened to the point where it is overtaken by functionalism as the superior explanation of the mind-brain relationship.

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