

1. Which position on the mind-body problem do you favor and why?

When considering the mind-body problem, I am a proponent of Token Materialism.

Token Materialism is where a functional state- a thought, or behavior- is the result of a brain state and this “functional state could be realised by different kinds of brain states” (Smart 2017). To believe this position is not to discount the possibility of finding new evidence that leads to a different stance, but rather to study all other current positions and believe the evidence and reasonings point to Token Materialism. It is then important to consider different positions of the mind-body problem, recognize their faults and attributes, and then elaborate why given this reasoning Token Materialism is the best explanation.

There are two main branches of thought when it comes to the mind-body problem; Materialism and Dualism. Descartes’s Dualism, or substance dualism, describes the mental and the physical as two distinct phenomena that can exist independently of each other. Arguments against this line of reasoning were raised by Princess Elisabeth of Bohemia where she questioned if the mind and the body were different substances altogether, how could they interact? After recognizing how mental and physical states were seen to be directly correlated, most modern day Dualists, or property dualists, think the mind and the body interact, but still hold distinct properties.

Is not knowing how the immaterial and material interact enough to exclude the possibility that they could interact? Similar to how Paley’s argument described how the best explanation for complex and highly organized organisms was the existence of an intelligent creator, but once there was more information available evolution also existed as a viable explanation. Simply because we don’t know how something happens does not exclude its existence. However, since my point of reference is to consider currently available information, and we do not currently

have an explanation to describe the interaction between material and immaterial substances, then there is not enough evidence currently available to support the existence of their interactions.

The other branch of thought for the mind-body problem is Materialism, where mental states are a manifestation of physical phenomena. There are several forms of Materialism, including Functionalism, Type Materialism (Identity Theory), and Token Materialism.

Functionalism defines “mental states and processes in terms of their causal relations to behaviour, but stops short of identifying them with their neural realisations” (Smart 2017). While Functionalism seems to be an answer to the argument posed against Dualists by acknowledging the mental and physical to be of the same substance, it presents another problem by practically ignoring inner states. For instance, in cases of patients with mental health issues, it would be difficult to give an accurate representation of their mental states, especially if their mental states involve delusions that they believe to be real. If behavior is the sole representation of inner states and we define the self-expression of our inner states as a behavior, then our behavior might not accurately reflect true mental states.

Type Materialism describes thoughts and actions as a manifestation of neural states. While Functionalism did not identify mental states as a neural realizations, Type Materialism took Functionalism a step further. This means it no longer viewed introspection as always being an accurate representation of our inner states, but rather acknowledged the limitations of the interpretation of our thoughts and actions. Type Materialism is an evolution of positions on the mind-body problem that describes the mind as a process of the brain, instead of them existing as two distinct entities.

However, the fault with Type Materialism lies in only considering a mental state can be expressed via one distinct pattern of function. For instance, say we applied this line of thinking to

the properties of an arm, a biological arm functions the same as a prosthetic arm and can even be controlled by the brain via nerves in the arm. With Type Materialism, even if two processes have the same function it would not consider both the same type of mental state. Type Materialism faces the problem of multiple realizability. A problem that Token Materialism addresses.

As defined previously, Token Materialism incorporates all possible processes to achieve a certain function and recognizes them as the same state. Where the scope of Type Materialism could be limited, Token Materialism could also be applicable to other animal species who experience similar mental states achieved by different processes with the same function. Type Materialism acknowledges that not all animals would experience pain like humans, but their physical processes could still achieve a mental state of pain. This line of thinking has a more broad approach that is open to the possibilities of mental states being achieved by systems other than the nervous systems, like an E.coli's sensorimotor system.

A possible obstacle with Token Materialism is imagining the billions of complex combinations of neuronal firing that would trigger specific internal thoughts and ideas. However, simply because it is difficult to grasp does not exclude its existence. Another thing to consider is our vocabulary. In colloquial language, the mind and the body are often described as two distinct entities. When discussing mental health, it is not often thought of as brain health, rather it's a discussion of one's emotional state of mind. The vocabulary surrounding the mind and body is likely a remnant of dualism, where the mental and the physical are considered two distinct phenomena. Even though how we discuss our thoughts and emotions is a Dualistic point of view, it does not impact the reality that our mental states are manifestations of the neuronal processes occurring in our bodies.

3. What's the *use* of having a mind?

Most people would agree other humans within our species have minds. However, there is hardly a consensus when considering whether or not other species also possess minds. If we approach the subject of non-human minds from a Token Materialism perspective, we would acknowledge how other organisms could achieve similar mental states such as pain and happiness via different mechanisms. Therefore, classification of cognitive capacities could not be reduced to a sliding scale from higher to lower cognitive levels but instead as a complex collection of branches and buckets. With this in mind, we can establish a system of classifying organisms by possessing a mind or not, keeping in mind how random mutations could occur in the future and create new traits that could adjust their classification.

It is important to consider the origins of the mind, and why certain organisms have them while others do not. Minds are the product of thousands of years of evolution, caused by random mutations. Perhaps, the mind started as a random mutation of the ability to sense pain. Organisms evolved to sense it and then reacted in a certain manner. Those organisms who learned to avoid pain likely lived longer giving them a greater opportunity to reproduce. These traits were then passed on and the traits that survived these generational changes are those that gave the organisms the ability to adapt to their environment.

It's quite possible that non-human organisms have had mutations that have given them the characteristics of having a mind. However, because those mutations were not advantageous then those genes would not have trickled down into future generations. As an exaggeration, if a plant possessed the ability to communicate with other plants as a result of multiple mutations, but

no other plants possessed this ability to communicate, then it would not be considered advantageous for this plant and would likely not be passed down.

Additionally, approaching the mind from a Token Materialistic perspective, since evolution is the combination of random mutations across generations, non-human organisms could achieve a certain function via a different process than that of humans. This leads us to consider how we should define a mind, given that the processes can be so varied and distinct across different species. One possible way is to think of the mind as branches and categories instead of binary categories of higher and lower cognitive function.

If you limit the characteristics of a mind to binary categories, then we run the risk of excluding some humans even. For example, humans possessing psychological disorders, biological mutations, and cognitive defects still possess a mind. Their minds are simply different from other humans, but they are still very much alive. If you were to list out criteria for mental states, you might consider pain, emotion, communication, and conscious behavior, as some of its categories. A dog could very possibly have all those things. A dog winces when someone steps on its paw; a dog wags its tails when it's happy; a dog can communicate with its owner when it's time to for dinner; and a dog can walk to its water bowl when it feels thirsty.

We've established that establishing criteria could be broadened to include non-human organisms, but what of other humans, what of a comatose patient. These patients will sometimes still possess brain activity and can still wake up to have a fully functioning lifestyle. From our knowledge they often do not experience pain, emotions, then can't communicate, and they can't act out conscious behavior. Thus our criteria could include the capacity for those characteristics. What about humans with mutations, like a patient whose nervous system blocks out the ability to

experience pain. We should then also consider what happens when certain organisms within a species have mutations that either cause them to either possess or not possess certain criteria.

As a result, we should have categories of function. These functions could include communication, emotions, and conscious behavior, and the capacity to carry out these functions. Rather than determining a mind is limited to those who possess a nervous system, the benefit of outlining a mind by its functions is to include the possibility of other potential processes that can all achieve a similar function. We could consider the more functions an organism possesses as a way of determining higher or lower cognitive functions, but this does not consider context. Oftentimes, populations of organisms thrive despite having characteristically low cognitive abilities. However, their thriving population would suggest they adapted to suit their needs and have flourished in the process.

Therefore, creating branches of functions and within each branch the possible processes to achieve that function, helps us in determining whether that organism has a higher cognitive function, given the context of that organism's environment. Potential limitations include some functions deemed higher in cognitive function than others, which is why context of an organism's environment is so crucial. Advantages to human cognition differ greatly from that of other organisms given their individual environments.

By this line of reasoning, there should be no higher and lower levels of cognition on a broad scale, but rather higher and lower levels of cognition given the context of the environment and the level to which an organism's level of cognition has adapted to its environment. A broader application of this perspective, includes the ability to recognize changes in traits even within a

single species, and potential evolutionary changes across an entire species that could arise in the future would then adjust that species' level of cognitive adaptability to their environment.

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