

Advancing Neuroscience: How the Self Prevents it

Abstract

This paper explores the notion of the self as one of the main obstacles in advancing neuroscience. Some folks argue for strict naturalism in order to study the brain objectively. However, in this process of naturalization, we run the risk of losing key components that make up our experience as human beings, namely emotions, ideas, and values. Therefore, I argue for moderate naturalism in an attempt to reconcile with the self. I reference Immanuel Kant's moral law theory in order to discuss the ethical implications of following a moderate naturalist view of the self in advancing neuroscience.

When a person cranes their neck to look up at the canopy of a redwood forest, what do they experience? They may observe the intricate path branches have chosen to avoid nudging each other, or rays of sun glinting off dark green needles. When they compare their body width to the tree's, a sensation of insignificance may wash over them. But would this perception of the redwood forest still exist in the same way if human perception was not able to place its interpretation on it? A comparable question can be applied to the human brain. Can the human brain be examined for the advancement of neuroscience without the influence and bias of the self standing in the way? In this paper I argue that the notion of the self is a hindrance to the advancement of neuroscience because of the existence of the mind-body problem. Additionally, naturalizing the self could run the risk of reducing the brain to an entity that does not fully encapsulate emotions, ideas, and values that arise from the function of the brain. In terms of ethical considerations, naturalizing the self in order to allow for the advancement of neuroscience

would be dangerous because of the potential removal of personal responsibility. There would be less of an inclination to be morally good if personal perception of the brain is irrelevant.

Furthermore, naturalizing the self could potentially create disparity in power. Fixing patients who exhibit immoral behavior could mean that neuroscientists have the power to place their own moral code onto individuals. The first section of the paper is dedicated to explicating the notion of the self, and how it relates to the mind-body problem. The second section involves the problems of naturalizing the self for the advancement of neuroscience and an argument against strict naturalism, and in favor of moderate. I then commit a section to discuss the ethical implications of naturalizing the self, and consider Kant's moral law theory. And to conclude, I end the paper with an assemblage of thoughts.

Section 1: Notion of the Self

Before going into the issues with the advancement of neuroscience in relation to the self, it is crucial to define what the self is. Cunha and Relvas state that there are too many varying philosophical notions of what the self is "to be sure of what is actually being challenged by neuroscience." (Cunha and Relvas, 2017) Though there is validity in their declaration, I believe it is necessary to preface this paper with some ideas I believe to be true about the notion of the self. The self is having the awareness that you are an individual with your own identity. It is brought on by the evolution of higher consciousness within the human species. An individual has an understanding of their own self because they know that they are not other individuals. Furthermore, an individual knows that there is a separation between their own self and another person because they do not have a first-person perspective of what it means to be that other person. In "What is it like to be a Bat?," Thomas Nagel affirms this when he expresses what it

would take to be a bat. He states that he is “restricted to the resources of his own mind” and that his resources are insufficient to make him embody the nocturnal animal (Nagel 1974, p. 439). He cannot add, subtract or modify his personal experience as a self to fully understand what it means to be a bat from the bat’s subjective view of the world. As a result, Nagel verifies that the notion of the self means that you are not able to fully conceptualize how another person experiences the environment, because you are not able to adopt their consciousness from a first-person point of view. In turn, you have your own perception of the world and your own experiences. This establishes a self.

Yet the cognitive awareness that you are your own person by virtue of not being someone else is not enough to explain the notion of the self. It is also important to emphasize the characteristics of having a conscious mind as a human being. The self is further delineated by the concepts of emotions, reason, values, ideas, and the ability to self-rule (Cunha and Relvas, 2017). As Aristotle points out, humans diverge from the rest of the animal kingdom because of our ability to “guide ourselves” through the use of reason (Kraut, 2018). The faculty to utilize reason, and the choice to use reason, is part of what determines the conception of the self. In total, the self surfaces from human beings’ cognitive ability to be aware of themselves from a first-person point of view, which they are not able to experience from another human or entity. And the self is expressed through the use of human attributes such as emotions, reasoning, values, and choice.

Having delineated notions of the self that I support, it is now imperative to dive into the mind-body problem. McGinn poetically asserts the problem as this: “Somehow, we feel, the water of the physical brain is turned into the wine of consciousness, but we draw a total blank on the nature of this conversion.” (McGinn 1989, p. 349) We know we have a conscious mind

because of our capacity to think, feel, move, express ourselves. We also know that we are able to do so because of the “soggy grey matter” that sits between our ears (McGinn 1989, p. 349). But there is a frustrating disconnect between consciousness and the physical brain that we have not yet been able to completely and perfectly uncover. The inability to figure out how the brain creates our conscious reality is due to our cognitive closure, as McGinn points out (McGinn 1989). Our first-person perspective does not allow us to interpret the world in the absence of our own biases, and selves. The very constitution of our cognition cuts us off from seeing the link between the brain and consciousness (McGinn 1989). Furthermore, it is not possible to examine and observe consciousness just by looking at the brain. There are observable properties in a person’s brain like the color, size and shape, but it is not possible to witness the properties of emotion, reason, value, and choice that that person has. Therefore, the existence of the self and its relation to the mind-body problem pose a hindrance to the advancement of neuroscience.

Section 2: What it takes to Naturalize

Now that there is a foundation of what the self is, it is now possible to explore how naturalizing the self can lead to issues in terms of advancing neuroscience. Naturalizing the self could run the risk of reducing the brain to an entity that does not fully encapsulate emotions, ideas, and values, which are properties that make up society as we know it.

Strict naturalism is explicated as such: mental, biological and social domains can be explained by science “using theories backed by evidence drawn from [...] observations and experiments.” (Thagard 2010, p. 8) There is nothing more to these domains than “arrangements of physical entities.” (Papineau, 2021) A strict naturalist would therefore believe that the self is a naturally occurring concept that can be explained completely by scientific reasoning and

inference about the physical brain. For example, emotions would be the result of parallel brain processes that entail “cognitive appraisal” and interpretation of bodily reactions of situations we experience (Thagard 2012, p. 10). Hope would be another example of cognitive appraisal combined with psychological perception (Thagard 2010). If complex topics like the meaning of life and human rights were able to be easily explained by showing clear evidence in the brain for them, then people would most likely feel a sense of relief. Finally there would be a tangible explanation. The anxieties about the unexplainable would be laid to rest. Despite how inviting it is to adopt a strict-naturalist mindset about the brain, there is still the risk of reductionism within the viewpoint. Strict naturalism is about what is, and what the world is like. It is a restricted conception of our environment. Since it is restricted to the physical realm, human attributes like values, beliefs, and things we care about would be excluded from the strict naturalist’s world (Stroud 1996, p. 47). It is a risk to adopt a strict naturalist mindset to diminish the self in order to examine the brain from an objective standpoint. There would not be proper consideration and respect to the very eminent influence that emotions, values, and choices have on us.

An alternative to strict naturalism would then be moderate naturalism. In moderate naturalism, there is a better chance that the mind-body problem within neuroscience could be resolved. Moderate naturalism does not “limit itself to boundaries fixed in advance,” but rather expands science to include whatever is necessary to make sense of the natural world (Stroud, 1996). In order to naturalize the self, neuroscientists must be able to locate the ‘self’ in the brain. This proves extremely difficult because the brain’s own expression of the self does not exist in one specific area of the brain. Areas such as the right frontal cortex and the cortical midline structure are activated in the brain when an individual undergoes self-recognition (Vogel and

Gallagher, 2011). However, there still is not a specific region of the brain dedicated to the self, and therefore many neuroscientists have a hard time minimizing the notion of the self to work to improve brain-related issues such as depression or psychiatric disorders. Though the self may not be sitting exclusively in one area in the brain, the fact that neuroscientists are able to infer that there are locations associated with the self sparks hope in solving the mind-body problem. As McGinn remarks, consciousness is a biological development, so we can recognize that it is open to some kind of natural explanation (McGinn 1989). Advancing neuroscience with moderate naturalism in mind would be a better option than strict naturalism. Emotions, values, and choices would still be included when examining the brain. This is due to the fact that a moderate naturalist believes that those human attributes are part of the natural world.

Section 3: The Ethics of Naturalizing

In regards to ethical considerations, naturalizing the self to allow for the advancement of neuroscience would run the risk of creating disparity in power between neuroscientists and patients, as well as threaten the removal of personal responsibility. People are responsible for their actions, and this is where morality comes into play. You need to be a moral person in order for the world and society to function properly (Deigh, 2010). But the advancement of neuroscience may reveal that everything in the brain is just signals being sent between neural pathways and neurons firing. The progress neuroscience has made has changed our sense of what “being human involves,” from a “spiritual essence,” to something “organic” (Taylor 2012, p. 2) This could potentially “obliterate” the idea that society is built on rationality and individual choices that people make (Cunha and Relvas, 2017). Naturalizing the self means that neuroscientists show that emotions, values, and ideas are just neural activity, and the certain

ways that neurons in the brain decide to fire. Consequently, people may sense that their personal responsibility for their actions and choices is not because of moral obligation, but rather the way the brain functions regardless of moral obligation. Declaring that the self is just the activation of neural circuits would take the floor out from under the notion of free will. People may come to the realization that they don't actually have free will and moral responsibility. But rather that they are "irrational [...] neural-ruled bodies" with an organ essentially functioning to keep them alive in the most basic sense (Cunha and Relvas, 2017). People then may feel less inclined to behave rationally and make moral decisions. They may also feel less inclined to make moral decisions if they know that neuroscience can function to fix their immoral behavior by simply rewiring their brain with neuroscientific advancements like deep brain stimulation, which is used to treat depression. Some type of surgical implantation of electrodes, like in deep brain stimulation for depression, could be applied to people who display immoral behavior in order to fix them. But who is determining the moral behavior that they need to be altered to align with? Then it becomes a question of power, and ethics are created in an attempt to counterbalance power. Naturalizing the self would eliminate personal responsibility to be a morally good human. And if immoral people could be morally corrected through neuroscience technology, neuroscientists would be able to implant their own ideologies of moral behavior into patients, thus potentially establishing a power imbalance within neuroscience.

However, the ethics of naturalizing the self can also be less cynical if we consider Kant's moral law theory. For Kant, even if people came to the realization that their decision making was simply neural activity, they would still use the intuitive drive of reason to act morally (Deigh, 2010). He says that humans' ability to utilize reason in situations they face are what set them

apart from other species and events in nature. Humans are “rational agents.” (Deigh 2010, p. 143) Though the advancement of neuroscience raises fears regarding the possible elimination of free will and moral responsibility, Kant would say that it is in humans’ innate nature to be rational. Consequently, humans would go on to take on responsibility for their actions.

In regards to the power imbalance that could arise when naturalizing the self, Kant would emphasize that neuroscientists would still attempt to treat their patients not merely as a means, but as an end in their own self. If humans really do possess innate practical reason, they would not utilize a person for their own benefit regardless of the other person’s own personhood. A neuroscientist would still have to be cognizant of the way they treated their patients even if they were analyzing their brain from an objective standpoint, devoid of internal bias. This is because a rational agent, namely a human, acts only on principles that have the potential to be made into laws for all humans (Deigh, 2010). A neuroscientist should perform actions with principles in mind that they would want another person in a similar situation to be able to do as well. Therefore, under Kant’s moral law, a neuroscientist would be acting unlawful if they examined a patient’s brain in a way that the neuroscientist would not want done to themselves. On the other hand, if a neuroscientist considered a patient an individual with their own emotions, values, and desires like the neuroscientist, they would not be creating a power imbalance in their examination of the patient.

Section 4: Conclusion

Though parts of Kant’s ethical theory provide proper consideration for naturalizing the self, his theory is not held by every neuroscientist. One neuroscientist’s justification for their chosen career could be very different from another’s. Therefore it’s hard to say on a universal

level that all neuroscientists would continue to respect patients' emotions, values, and choices after naturalizing the conception of the self, in order to advance neuroscience. The self is a hindrance to advancing neuroscience because of the ever-present mind-body problem.

Furthermore, in naturalizing the self to move past personal interpretation and perspective to an objective view point, there would be a risk of putting an end to personal responsibility as a result.

If the self needed to be naturalized to advance neuroscience, there would have to be a discussion about which naturalist viewpoint to undertake. In strict naturalism, non physical aspects of the world would not be considered natural. This would mean that human attributes such as emotions, our belief in values, and how we make choices would need to be disregarded. As a result, we would run into reductionism. We would reduce the brain to an entity lacking characteristics that make up a significant portion of human life and society, namely emotions, values, ideas, etc. In this regard, it is more favorable to adopt a moderate-naturalist mindset. Then we would be able to include non-physical features into our conception of the natural world. The ethical considerations of naturalizing the self are important to note. If people believe that society is not built on the notion of rationality, but rather just the physical brain using its neural pathways to make decisions, people may lose their faith in the concept of free will and responsibility.

Responsibility is another way of saying how we practice free will. And if we naturalize the brain to get rid of the self in order to see the brain from an objective point of view, we also eliminate free will from the discussion because free will is how we make decisions which can be guided or influenced by emotions and societal values. People may act upon immoral thoughts as a consequence. In relation, if neuroscientists are in a position to fix immoral behavior in the brain through techniques such as deep brain stimulation, they may be implementing their own

conception of morality. A power dynamic can unfold, where the neuroscientist possesses more power over their patient. In a more positive light, Kant declares that every human has a moral law within them. So even if neuroscience needed to naturalize the self in order to advance the field, neuroscientists would still treat patients with respect to their own wants, desires, and feelings.

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