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INTRODUCTION

Philosophy of the mind seeks to examine the underlying relations between mental events, such as cognition and consciousness, and the physical world, including the human body and the brain. In other words, it grapples with the so-called mind-body problem and tries to explicate the exact relationship between the physical and the mental, if it turns out there is a relationship between these two realms to explicate at all. Having a strong foundation in metaphysics, this branch of philosophy addresses issues about the nature of humanity that trace back to ancient discussions on the body and the soul. Now, modern discussions frame such questions with respect to the mind rather than to the soul, but the main problem at issue remains the same. Importantly, this replacement of the soul by the mind hints at a common approach to the mind-body problem: reductionism. This approach seeks explanations for the human mind by reducing it to more easily understood, material processes. While this is certainly not the only method used in the philosophy of the mind, it is one of the most pervasive and it will be thoroughly discussed. However, plausible theories of the mind do remain that leave theological conceptions of the soul intact as well. It is the apparent conflict between reasonable reductionist accounts of the mind and equally plausible dualist accounts of the mind that makes this area of philosophy so interesting and, at times, frustrating.
As Johan Wolfgang van Goethe once said, “Man must persist in his belief that the incomprehensible is comprehensible, otherwise he would cease to explore.”\footnote{P. Hansotia, “A Neurologist Looks at Mind and Brain: “The Enchanted Loom,”” \textit{Clinical Medicine and Research}, 1:4(2003): 328.} Indeed, it is man’s perpetual curiosity that makes the mind-body problem a perennial topic of investigation. Springing forth from this centuries-long examination are theories declaring that the mind is totally spiritual and independent from the body in addition to theories declaring that the mind is so inextricably linked to the brain it could never exist independently. Many scientists have dissected the brain in search of the mind. For instance, Ramón y Cajal recounts, “As the entomologist chasing butterflies of bright colors, my attention was seeking in the garden of grey matter, those cells of delicate and elegant forms, the mysterious butterflies of the soul, whose fluttering wings would someday – who knows? – enlighten the secrets of mental life.”\footnote{W.P. Cheshire, “Grey Matters: The Synapse and Other Gaps,” \textit{Ethics and Medicine: An International Journal of Bioethics}, 24:3(2008): 142.} Similarly, numerous philosophers have turned their gaze upwards to the divine as they reflect on the infinite nature of man’s reason. In an effort to provide as robust a discussion of the mind-body problem as possible, diverse and varied theories of the mind are described below; but, perhaps the best theory to initially discuss is Descartes’ famous dualist account of the human agent. From this starting point, the winding developments of the philosophy of the mind will be traced to the present day. Finally, a critical evaluation of the most plausible theories of the mind will be included along with a
challenge to the reader to independently contemplate the validity of these theories in light of both faith and reason.

DESCARTES AND DUALISM

According to John Searle, “the philosophy of mind in the modern era effectively begins with the work of René Descartes.”

Descartes' most famous philosophical conception is his idea of dual substances, namely the substance of the mind and the substance of the body, each existing independently within the human person. Each of these substances has a characteristic “essence” that makes it the type of substance it is. The mind’s essence is consciousness, or thinking, whereas the body’s essence is extension in three-dimensions as a material object. Thus, Descartes’ terms for the mind and the body, res cogitans and res extensa, respectively, are derived from the essences characteristic to each substance. In addition to their distinguishing essences, these two substances also have associated properties that further describe the way we experience each. For example, the mind is free, capable of making its own decisions, incapable of being divided into smaller components, and immortal. The body, on the other hand, is not free, infinitely divisible, and ultimately ephemeral. From these descriptions, it is easy to see why Descartes concludes that the mind and the body must be entirely

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4 Searle, Mind: A Brief Introduction, 9.
7 Searle, Mind: A Brief Introduction, 9.
8 Searle, Mind: A Brief Introduction, 11.
9 Searle, Mind: A Brief Introduction, 11.
10 Searle, Mind: A Brief Introduction, 11.
separate substances since their properties seem to be directly in opposition. For
Descartes, the mind is the source of all mental events and the body is responsible
for carrying out the physical processes associated with life. This is a very important
distinction and it is one that is rather absolute, as Searle explains: “[Descartes]
thought bodies and brains could no more be conscious than tables or chairs or
houses, or any other hunk of junk. Conscious souls are separate, though somehow
attached to human bodies. But no material object, living or dead, is conscious.”

Therefore, Descartes’ mind-body philosophy clearly leaves many questions to
be answered. First and foremost is the question of mind-body interaction. From
everyday experience, it is plain to see that physical occurrences must somehow
cause mental phenomena. The experience of pain undeniably demonstrates this
point. Furthermore, mental events must be able to initiate some physical events.
For example, once one decides to go for a run or to walk across a room, the body
usually follows suit. With Descartes’ description of the mind and the body as
absolutely distinct from one another, it is difficult to imagine how Cartesian
dualism can account for this sort of mental causation at all. As Jerry Fodor states,
“How can the nonphysical give rise to the physical without violating the laws of
conservation of mass, of energy and of momentum?” Substance dualism also

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11 Searle, Mind: A Brief Introduction, 12.
13 Searle, Mind: A Brief Introduction, 11.
14 Searle, Mind: A Brief Introduction, 11.
15 Fodor, 114.
conjures up less obvious difficulties, such as the problem of sleep.\textsuperscript{16} If the essence of the mind is consciousness and the mind is also immortal, how can Descartes account for the continuing existence of the mind during periods of unconsciousness, such as sleep?\textsuperscript{17} All of these questions and many more are left virtually unanswered by Cartesian dualism, which makes this philosophy of the mind generally implausible.

In an effort to salvage certain aspects of dualism while resolving some of the conflicts outlined above, some philosophers of the mind have turned to property dualism as an alternative to Cartesian, or substance, dualism.\textsuperscript{18} Property dualism asserts that humans are not composed of two distinct substances fundamentally different from one another, but rather that human beings are primarily physical in nature.\textsuperscript{19} Further, the physical body and the brain, in particular, are deemed capable of having both physical and mental properties.\textsuperscript{20} Thus, this viewpoint does not assert that the mind and the body are totally distinct. Instead, it proposes that the mental properties of the mind arise from physical activities within the brain. This viewpoint still inherits some of the same problems associated with Cartesian dualism, though.\textsuperscript{21} The question of how physical processes in the brain could ever generate mental properties is one of the most glaring.\textsuperscript{22} Even more concerning is the question of how mental properties, once generated, could act causally to

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\textsuperscript{17} Searle, \textit{Mind: A Brief Introduction}, 18.
\textsuperscript{22} Searle, \textit{Mind: A Brief Introduction}, 31.
\end{flushright}
influence the physical media from which they came.\textsuperscript{23} In fact, property dualism seems to lead to the conclusion that consciousness arises from the brain but cannot influence the physical realm at all.\textsuperscript{24} Searle describes this viewpoint, known as epiphenomenalism, as follows:

...Mental states do indeed exist but they are epiphenomena. They just go along for the ride; they do not actually have any causal effects. They are like the froth on the wave that comes up on the shore or the flashes of light that glisten off a lake – they are there all right, but they play no significant causal role in the physical world. Indeed, they are worse than the froth and the flash, because they could not play any causal role.\textsuperscript{25}

The problem with such a proposal is that it denies the reality of mental causation which everyone experiences in day-to-day life. If mental causation is really experienced, it seems we must conclude it really exists, which means epiphenomenalism is most likely untrue. Thus, property dualism finds itself in nearly as many philosophical quagmires as substance dualism and is not a much more reasonable account of the mind.\textsuperscript{26}

MATERIALIST ACCOUNTS OF THE MIND

With the inherent problems of dualism so vexing, it becomes easy to see why philosophers inevitably turned to monism for solace in their search for answers about the conscious world. Since the idea of two distinct substances interacting

\textsuperscript{24} Searle, \textit{Mind: A Brief Introduction}, 32.
\textsuperscript{25} Searle, \textit{Mind: A Brief Introduction}, 32.
\textsuperscript{26} Searle, \textit{Mind: A Brief Introduction}, 32.
causally in one human body apparently gives rise to more questions than answers, it is logical to believe that eliminating one of these two substances from one’s overall concept of the mind may provide more fertile ground for both philosophical and scientific inquiry. Before a monist approach to the mind can be further developed, however, an important step is deciding which of the two Cartesian substances must be cast aside. Thus, two distinct types of monism have emerged over time. One version, idealism, embraces the total immateriality of the mind, proposing that the only true medium for consciousness consists of ideas in the purely mental sense and minds to hold these ideas. The other version of monism, materialism, has engendered one of the most pivotal movements in the philosophy of the mind during the twentieth century and beyond. Materialism removes the “ghost” from Descartes’ machine and attempts to give a reductionist account of the mind in terms of physical processes with scientifically acceptable explanations.

Psychologists in the early 1900’s readily welcomed a materialist account of mental events. Materialism legitimized psychology as a scientific discipline since mental events could now be explained through scientific experimentation. In fact, the psychological movement dubbed “behaviorism” sowed the seeds for further permutations of materialism throughout the twentieth century. The father of this movement, John B. Watson, started a veritable revolution in the world of

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30 Fodor, 114.
psychology by asserting that behavior lacked mental causes and could be fully explained by the stimulus-response relationship.\textsuperscript{32} Further development of behaviorism by such influential figures as B.F. Skinner redefined the goal of psychology, which became the discovery of governing principles determining which responses were produced by which stimuli.\textsuperscript{33} With its absolute focus on observable behavior, methodological behaviorism rendered the ethereal, soulful mind of dualism obsolete and emphasized the importance of sound scientific method within psychology.\textsuperscript{34}

While methodological behaviorism was rapidly changing the face of psychology, logical behaviorism began taking root in the realm of philosophy.\textsuperscript{35} This approach did not entirely ignore the mental causes of human behavior, but rather tried to explain these mental states in terms that materialists and behaviorists could accept. Proponents of logical behaviorism asserted that a mental state was merely a disposition of an individual to exhibit a certain array of behaviors in response to certain environmental stimuli.\textsuperscript{36} A common way of describing logical behaviorism examines a statement such as “Jones believes it is going to rain.”\textsuperscript{37} John Searle explains that a logical behaviorist would translate this statement into behavioral terms by simply saying that Jones will carry an umbrella if he goes for a walk, shut his windows if they are open, wear a raincoat if he leaves the house,

\begin{thebibliography}{99}
\bibitem{Fodor114} Fodor, 114.
\bibitem{Fodor114} Fodor, 114.
\bibitem{SearleMind} Searle, \textit{Mind: A Brief Introduction}, 35.
\bibitem{Fodor115} Fodor, 115.
\end{thebibliography}
etc...\textsuperscript{38} All of these behavioral dispositions summed together form Jones’ belief that it is going to rain. Thus, this philosophical view translates language regarding causal mental states into statements identifying the behavioral stimulus-response relationships associated with the mental states in question.\textsuperscript{39}

Both methodological behaviorism and logical behaviorism were widely influential but, eventually, the utility and plausibility of these schools of thought came under heavy scrutiny. The linguist Noam Chomsky found the idea that psychology is nothing more than the study of behavior absurd.\textsuperscript{40} Basically, he believed such a statement was tantamount to saying that physics is merely the study of meter readings.\textsuperscript{41} Surely, metering readings are important in physics, but underneath the meter readings lay overarching principles and theories that are the true heart of this science. In the same way, behavior can be used as an indicator of one’s psychological state, but underneath the behavior is a complex inner world of the mind that cannot be brusquely swept under the rug. Also, a psychological point of view that only studies behavior seems contrary to everyday experience, where mental thoughts themselves are very real causes for most behaviors.\textsuperscript{42} Further, logical behaviorism seemed to only give the illusion of explaining away mental causation in purely behavioral terms.\textsuperscript{43} For example, certain behaviors will only be exhibited if they are in accord with a person’s prior desires and preferences, such as

\textsuperscript{38} Searle, \textit{Mind: A Brief Introduction}, 36.
\textsuperscript{39} Fodor, 115.
\textsuperscript{40} Searle, \textit{Mind: A Brief Introduction}, 37.
\textsuperscript{41} Searle, \textit{Mind: A Brief Introduction}, 37.
\textsuperscript{42} Searle, \textit{Mind: A Brief Introduction}, 37.
\textsuperscript{43} Searle, \textit{Mind: A Brief Introduction}, 37.
the desire to stay dry, which are quite literally lost in the translation of logical behaviorism. These shortcomings provided a push for growth in the realm of materialism that gave birth to a new materialist viewpoint in the philosophy of the mind called identity theory.

Identity theory, or physicalism, represents a more robust materialist point of view than behaviorism since it equates mental states with corresponding neurophysiological events within the brain. Instead of ignoring mental events all together or redefining mental states in behavioral terms, it asserts that mental states are real experiences that are identical to states of the brain as a matter of fact. Since mental states become identical to certain patterns of neurological activity, the causal role of mental states in behavior is easily explained using identity theory. If mental states are themselves identical with physical states of the brain, then they would certainly be able to act causally in the physical medium of the brain’s nervous system to produce either behavioral responses or subsequent mental states. Thus, identity theory seems to at least give a more coherent explanation of mental causation than substance dualism. However, a serious problem for identity theorists was the accusation of “neuronal chauvinism.” If mental states, such as feeling pain, are exactly identical with certain brain states, it seems that only a being having the right types of neurons or, more generally, a

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44 Searle, Mind: A Brief Introduction, 37.
45 Fodor, 116.
46 Searle, Mind: A Brief Introduction, 40.
47 Fodor, 117.
48 Fodor, 117.
49 Searle, Mind: A Brief Introduction, 41.
being having neurons at all would be able to have mental states.\textsuperscript{50} Without correction, identity theory does not leave room for animals to experience pain, since they have different brains than humans, and does not allow for the possibility of mental states in computers since they do not have brains at all.\textsuperscript{51}

This objection catalyzed a major change in identity theory. The former version of identity theory outlined above is called type-type identity theory, where each type of mental state has a corresponding type of brain state. In order to correct for neuronal chauvinism, type-type identity theory gave way to token-token identity theory. The distinction between type-type identity theory and token-token identity theory obviously lies in the difference between a “type” and a “token.”\textsuperscript{52} A token is essentially a discrete exemplification of any universal type.\textsuperscript{53} So, token-token identity theory upholds that every token of a particular type of mental state has a corresponding token of a particular type of physical state.\textsuperscript{54} Thus, the emphasis on neurophysiology is removed using token-token identity theory because any type of physical state, whether it be mechanical or neurological in nature, capable of consciousness can have token states giving rise to corresponding token mental phenomena. Now, the possibility for consciousness in other physical media leading to artificial intelligence remains open. Interestingly, this shift from type-type to token-token identity theory gave rise to new, difficult questions for

\textsuperscript{50} Searle, \textit{Mind: A Brief Introduction}, 41.
\textsuperscript{51} Searle, \textit{Mind: A Brief Introduction}, 41.
\textsuperscript{52} Searle, \textit{Mind: A Brief Introduction}, 41.
\textsuperscript{53} Searle, \textit{Mind: A Brief Introduction}, 41.
\textsuperscript{54} Searle, \textit{Mind: A Brief Introduction}, 42.
materialists. For example, what do two different token physical states of entirely
different physical types have in common that allows them both to be associated with
token mental states? To avoid property dualism, the similarity cannot be certain
shared mental properties and since type-type identity theory has already been
abandoned, the similarity cannot even be a shared type of physical state either.

This predicament provided the momentum for yet another shift in the
materialist account of the mind. The answer that developed to the above question
defined a new genre of materialism, termed functionalism, and sparked yet another
philosophical revolution. Functionalists asserted that two token physical states of
different physical types associated with the same token mental state share a certain
function that similarly influences the behavior of whatever entity possesses either
token physical state. Such a function is ultimately the key, defining feature of the
particular mental state in question. Therefore, mental states are no longer defined
in terms of their spiritual essence, physical nature, or any inherent feature at all.
Instead, they are defined by their causal relations to an organism’s behavior and
subsequent mental states, which constitute their overall function. Therefore, this
approach renders the question of whether functional properties are carried out by
neurons or computer processors or even immaterial, spiritual energy irrelevant.
Instead, emphasis can now be placed on discovering the functional capacities and

59 Fodor, 120.
causal relationships that are associated with mental states in whatever media they may become manifest. In other words, the hardware of the organism is no longer germane to the philosophy of the mind; rather, the programming of the hardware that represents the organism’s operating software is most important.\textsuperscript{60}

From this flexible philosophical springboard, materialism underwent yet another important paradigm shift into the realm of computer science. In order to explain the next materialist offshoot from functionalism, a basic understanding of some key principles of computational theory is required. First, the theoretical nature of a Turing machine, conceived by Alan Turing, must be described. The Turing machine is a theoretical machine that has both inputs and outputs written on an infinitely long ticker tape.\textsuperscript{61} The ticker tape has two different symbols, usually zeroes and ones, on it and the Turing machine can be programmed to scan the tape so that it reads these symbols.\textsuperscript{62} This sort of machine can also be programmed in such a way that it recognizes certain rules dictated by various arrangements of symbols.\textsuperscript{63} Upon recognizing these symbol-governed rules, the Turing machine can then perform certain output functions, such as erasing symbols on the tape, shifting its reading frame, etc...\textsuperscript{64}

Next, Church’s thesis introduced the notion that any algorithmic function, or any mathematical function that can be computed reliably in a finite number of

\textsuperscript{60} Searle, \textit{Mind: A Brief Introduction}, 45.
\textsuperscript{61} Fodor, 120.
\textsuperscript{62} Fodor, 120.
\textsuperscript{64} Churchland and Churchland, 32.
steps, can be solved using a Turing machine.\textsuperscript{65} Thus, a Turing machine can theoretically compute any algorithmic function using a maximally simple code of just two different symbols.\textsuperscript{66} Even incredibly complex functions can simply be broken down over and over again until they are represented by nothing more than zeroes and ones and recognizable to the Turing machine.\textsuperscript{67} Finally, Turing’s theorem mathematically proved that, although there may be many different Turing machines programmed to recognize very different algorithmic functions, a Universal Turing Machine that recognizes any program from any other Turing machine is theoretically possible.\textsuperscript{68} From this finding, materialist philosophers of the mind could easily imagine the human mind as a sort of Ultimate Turing Machine, capable of carrying out the seemingly infinite number of complex functions required for consciousness.\textsuperscript{69} In fact, when this idea was still in its nascent form, some philosophers even postulated that since neurons are either in a state of firing or not firing, the brain most likely operates on a binary system just like an Ultimate Turing Machine or a digital computer.\textsuperscript{70}

This capstone theory in the realm of functionalism became known both as computational functionalism and strong artificial intelligence theory. With this philosophical point of view as a guide, the true nature of the human mind seemed to have been discovered. According to this theory, the brain is essentially just

\textsuperscript{65} Searle, \textit{Mind: A Brief Introduction}, 47.
\textsuperscript{66} Churchland and Churchland, 32.
\textsuperscript{67} Searle, \textit{Mind: A Brief Introduction}, 50.
\textsuperscript{70} Searle, \textit{Mind: A Brief Introduction}, 50.
“running” a sort of computer program that is one and the same as the notion of the human mind. The details of the particular program can be uncovered through research in the realm of computer science, since the same program could theoretically be reproduced in any physical medium that is sufficiently complex. In short, it is simply a matter of discovering the proper programming before a binary symbol-manipulating computer is capable of consciousness. As Paul and Patricia Churchland so eloquently put it, “the only remaining problem is to identify the undoubtedly complex function that governs the human pattern of response to the environment and then write the program by which the symbol-manipulating machine will compute it.” There is even a test that will indicate when such a function has been successfully programmed. Not surprisingly, it is called the Turing test for conscious intelligence. Basically, a symbol-manipulating machine operating a particular program will pass the test if its performance is indistinguishable from a human performance on the same test. In response to criticisms that symbol-manipulating machines bear little resemblance to the brain, computational functionalism put forth the following rebuttal:

First, the physical material of any [symbol-manipulating] machine has nothing essential to do with what function it computes. That is fixed by its program. Second, the engineering details of any machine’s functional architecture are irrelevant, since different architectures running quite different programs can still be computing the same input-output function... The

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72 Churchland and Churchland, 32.
73 Churchland and Churchland, 32.
74 Churchland and Churchland, 32.
idiosyncratic way in which the brain computes the function just doesn’t matter...\textsuperscript{75}

Essentially, strong artificial intelligence theory has reduced the mind into a sort of computer program that, in humans, just so happens to be programmed in neurons. It has become divorced not only from a spiritual soul but also the brain itself. It is reduced to nothing more than a program for consciousness that could theoretically be run by both human persons and automata alike.

Representing an even stronger argument for the complete physicality of the mind, eliminative materialism, denounces beliefs, desires, and all other “propositional attitudes” of the mind as entirely nonexistent.\textsuperscript{76} Supporters of this philosophical view, including Paul Churchland, propose that these commonsense psychological constructs constitute something called “folk psychology.”\textsuperscript{77} Taken as a whole, this type of psychology should ultimately be recognized as a current scientific theory subject to the same critical evaluation as any other.\textsuperscript{78} However, given the track record of folk psychology, eliminative materialists suggest its immediate abandonment as a governing paradigm.\textsuperscript{79} Just as alchemy has come to be viewed as an archaic and futile pursuit in light of modern chemistry, folk psychology will eventually be scoffed at by future generations of enlightened neuroscientists.\textsuperscript{80} The impetus for this conclusion is the perceived notion that folk psychology has

\textsuperscript{75} Churchland and Churchland, 32-33.
\textsuperscript{77} Churchland, 69.
\textsuperscript{78} Churchland, 68.
\textsuperscript{79} Churchland, 76.
\textsuperscript{80} Churchland, 81.
miserably failed to explain many human cognitive functions in sufficient detail and has propagated a stagnant research program for centuries.\textsuperscript{81} Instead, eliminative materialists view common-sense psychology as a barrier to further advancement in the realm of the philosophy of the mind since a neurophysiological approach holds our only hope for ever understanding human consciousness.\textsuperscript{82} What little credit functionalists gave to beliefs and desires by recognizing them as functions with causal roles in human behavior has been removed completely in the eliminative materialist school of thought. Instead, these beliefs and desires have been exposed as merely glorified electrical impulses in the immensely complex neuronal network that is the human brain.

Thus, the advancement of materialism over the course of the twentieth and twenty-first centuries, culminating in computational functionalism and eliminative materialism, leads to some startling conclusions about the nature of the mind and our classical conception of the soul. Essentially, a new age of neuroscience is dawning governed by the belief that “given computers of sufficient power and sophistication, it would be possible to predict the course of any human being’s life moment by moment, including the fact that the poor devil was about to shake his head over the very idea.”\textsuperscript{83} Such a computer would simply be programmed to run the exact same program that the human brain runs. No longer is there room for improvement of character, the self-made man, or anything resembling a soul since a

\textsuperscript{81} Churchland, 74-75.
\textsuperscript{82} Churchland, 90.
person’s mental life is ultimately the sum product of his or her neuronal activity which is subsequently dependent upon genetic hardwiring present from birth.\(^{84}\) Subscribers to this perspective agree whole-heartedly with Tom Wolfe when he sarcastically questions, "Why wrestle with Kant’s God, Freedom, and Immortality when it is only a matter of time before neuroscience, probably through brain imaging, reveals the actual physical mechanism that sends these mental constructs, these illusions, synapsing up into the Broca’s and Wernicke’s areas of the brain?"\(^{85}\) Indeed, if society embraces strong artificial intelligence theory and eliminates mental constructs all together, it seems that what remains is essentially genetic determinism.\(^{86}\) The genetic sequence inherited by each person represents not only the code of life but also the code for the functional program of the human mind. If human nature turns out to be as hardwired as the above description suggests, what’s the use in struggling to achieve personal growth or live a virtuous life? It seems such exercises would just encourage needless resistance against simply living out the genetically inevitable.

**PROBLEMS WITH MATERIALISM**

When the considerations outlined above are taken fully into account, materialism and reductionism begin to paint a rather bleak picture of human nature. While some of the implications of eliminative materialism may be unsettling, it seems hard to argue against the smooth reduction of the immense

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\(^{84}\) Wolfe, 8-9.
\(^{85}\) Wolfe, 5.
\(^{86}\) Wolfe, 9.
complexity of the human mind into a program run by the neurons of the brain. From the behaviorists’ misguided emphasis on observable phenomena and scientific method, a mature reductionist theory has blossomed, apparently uncovering the most intimate secrets of the mental world. Not only has the mind been stripped of any connection to the immaterial, but its most amorphous, mental qualities have also been labeled nonexistent or, at the very least, entirely irrelevant. The mind, an entity that seems so fundamentally different from the physical realm, has been fully explained in the entirely familiar terms of computer science and neurobiology – or has it?

According to John Searle, “Strong artificial intelligence is unusual among theories of the mind in at least two respects: it can be stated clearly, and it admits of a simple and decisive refutation.”

If materialism truly provides a full explanation of the mind, it must also provide a full account of all conscious events. However, materialism seems to have made an important oversight; it fails to explain the qualitative states of consciousness, or what philosophers call qualia. Since functionalism narrowly defines mental states in terms of their functional capabilities, how can it account for the entirely different qualitative experiences of listening to a symphony or observing a sunset? Such qualia are precluded from a functionalist account of the mind because they cannot be described in terms of algorithmic functions. Eliminative materialists would propose that these

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experiences are illusions, but this does not seem to be a satisfactory explanation. From everyday experience, it can be deduced that qualia really exist, and if that is the case, functionalism must be false since it “fails to provide sufficient conditions for mental phenomena.”  

To get a better sense of what functionalism is lacking, the phenomenon of spectrum inversion can be examined.  

In this thought experiment, two observers are assumed to be alike in all applicable mental respects, except that the color one observer calls “red” the other calls “green” and vice versa.  

It is easy to imagine that they may go through their whole lives never knowing that they are really seeing different colors when they both say they are seeing “red.” Both would pass tests for red/green color blindness and both would stop their cars at a “red” traffic light, for instance. Since their behaviors would be externally identical to one another, the functionalist would have to say they were having the same mental experiences, since mental states are nothing more than functional programs for behavioral causation. Even though all the same behaviors would be exhibited by the observers, the subjective, qualitative contents of their experiences would be quite different, however. When one of the observers is having a green experience while the other is having a red experience, there is something intrinsic to their mental states that makes them fundamentally different from one another.  

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91 Fodor, 122.  
92 Fodor, 122.  
93 Fodor, 122.
difference represents the qualitative content of consciousness that functionalism cannot explain.

Thomas Nagel takes on this same issue in his famous essay, “What Is It Like to Be a Bat?”\(^94\) He begins by declaring that “philosophers share the general human weakness for explanations of what is incomprehensible in terms suited for what is familiar and well understood, though entirely different.”\(^95\) Thus, he is clearly arguing against the reduction of the human mind in materialist terms. To demonstrate the implausibility of this approach, he once again emphasizes the subjective character of conscious experience.\(^96\) To do this, he examines the consciousness of bats. Since bats are mammals, they presumably have mental experience, although they are about as opposite to human beings as can be, navigating the world through echolocation, sleeping upside down, and waking for the day every evening.\(^97\) If the entire neurophysiology of the bat were discovered and mapped out by scientists to the point where all the behavioral circuitry of the bat was known, it seems there would still be something missing from our knowledge of bat consciousness. Namely, the subjective experience of actually \textit{being} a bat would be absent.\(^98\) For example, the experiences of visually observing a mosquito and perceiving one through echolocation are undoubtedly very different. Since

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\(^95\) Nagel, 435.
\(^96\) Nagel, 436.
\(^97\) Nagel, 438.
\(^98\) Nagel, 436.
functionalism cannot account for the difference between these experiences, it must be false. As Nagel explains:

Certainly it appears unlikely that we will get closer to the real nature of human experience by leaving behind the particularity of our human point of view and striving for a description in terms accessible to beings that could not imagine what it was like to be us. If the subjective character of experience is fully comprehensible only from one point of view, then any shift to greater objectivity – that is, less attachment to a specific viewpoint – does not take us nearer to the real nature of the phenomenon: it takes us farther away from it.99

Therefore, Nagel believes that an attempt to objectively describe consciousness in terms that ignore qualia is largely counterproductive to discovering the true nature of the mind.

John Searle also makes a famous attack aimed at the heart of strong artificial intelligence theory using his Chinese room argument. His goal is to show that symbol manipulation in and of itself is not sufficient to guarantee consciousness.100 In order to do this, Searle imagines himself in a scenario where he actually plays an integral part in carrying out the function of a “computer program.”101 He describes a situation where he is placed in a room, alone, with a basket containing blocks with Chinese symbols on them.102 He knows absolutely no Chinese and to him the symbols merely represent meaningless scribbles.103 Also

contained in this Chinese room is a rule book written in English for matching Chinese symbols together, but it contains no mention of what the symbols themselves actually mean linguistically.\textsuperscript{104} External to the room, there are people who actually do understand Chinese who can pass arrangements of Chinese symbols into the room which, unknowingly to Searle, represent questions.\textsuperscript{105} Using the rule book he has been provided, Searle can arrange blocks in the room to provide appropriate answers to these questions.\textsuperscript{106} To those reading his responses, it will appear as though he actually understands Chinese when in reality he does not.\textsuperscript{107} In this scenario where the rule book represents a computer program governing the process of symbol manipulation, the basket of blocks represents a computer data base, and Searle himself performs the function of a computer, Searle has satisfied the Turing test for understanding Chinese.\textsuperscript{108}

However, despite satisfying the Turing test for knowledge of the Chinese language, Searle himself can actually \textit{understand} no more Chinese than he could without the rule book. In the words of Searle, “there is no way I could come to understand Chinese in the system as described, since there is no way that I can learn the meanings of any of the symbols.”\textsuperscript{109} Just like a computer running a program, he can only manipulate symbols and cannot attach meaning to them.\textsuperscript{110}

In other words, computers can only work with formal symbols and are thus

\begin{itemize}
\item \textsuperscript{104} Searle, “Is the Brain’s Mind a Computer Program?” 26.
\item \textsuperscript{105} Searle, “Is the Brain’s Mind a Computer Program?” 26.
\item \textsuperscript{106} Searle, “Is the Brain’s Mind a Computer Program?” 26.
\item \textsuperscript{107} Searle, “Is the Brain’s Mind a Computer Program?” 26.
\item \textsuperscript{108} Searle, “Is the Brain’s Mind a Computer Program?” 26.
\item \textsuperscript{109} Searle, “Is the Brain’s Mind a Computer Program?” 26.
\item \textsuperscript{110} Searle, “Is the Brain’s Mind a Computer Program?” 26.
\end{itemize}
“syntactic” whereas human minds attach meaning and are thus “semantic” in nature. Searle then puts forth an axiom stating that “syntax by itself is neither constitutive of nor sufficient for semantics.” Therefore, since computers cannot attach meaning they cannot, as functionalism proposes, experience consciousness by the very virtue of performing functional programs. If Searle himself is not fully conscious of Chinese as he is running a program that satisfies the Turing test for understanding Chinese, no digital computer running a similar program will ever be and computational functionalism appears to be thoroughly disproven.

Computational functionalists do attempt to refute this argument, however. Paul and Patricia Churchland use their own thought experiment to show flaws in Searle's Chinese room argument. In order to do this, they set up a hypothetical scenario called the luminous room. This luminous room is designed to test the hypothesis that light and electromagnetic waves are identical, which modern science has now proven to be true. In this situation, a man stands in a dark room holding a bar magnet. He manually oscillates the magnet back and forth, producing electromagnetic waves that spread throughout the room. Everyone knows that such activity will not produce visible light, and thus, based on this hypothetical situation, one may conclude that electromagnetic waves cannot

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111 Searle, “Is the Brain’s Mind a Computer Program?” 27.
112 Searle, “Is the Brain’s Mind a Computer Program?” 27.
114 Churchland and Churchland, 35.
115 Churchland and Churchland, 35.
116 Churchland and Churchland, 35.
produce light.\textsuperscript{117} One may even propose that something called luminance is the real property of light and electromagnetic waves in and of themselves will never be sufficient for light since they are seemingly insufficient for the production of luminance.\textsuperscript{118} Such a conclusion would be analogous to someone concluding that symbol manipulation cannot guarantee consciousness after contemplating the Chinese room argument. However, such reasoning is faulty; the room in question actually does contain “luminance,” it’s just much too dull to be seen because the frequency of oscillation of the electromagnetic waves in the room is much lower than the required frequency of oscillation to produce visible light.\textsuperscript{119} In fact, it is lower by a factor of $10^{15}$.\textsuperscript{120} In conclusion, the Churchlands state,

> Even though Searle’s Chinese room may appear to be “semantically dark,” he is in no position to insist, on the strength of this appearance, that rule-governed symbol manipulation can never constitute semantic phenomena, especially when people have only an uninformed common-sense understanding of the semantic and cognitive phenomena that need to be explained.”\textsuperscript{121}

They assert that Searle’s axiom stating “syntax by itself is neither constitutive of nor sufficient for semantics” is not supported by conclusions drawn from the Chinese room.\textsuperscript{122}

Searle responds to this clever argument by claiming that although the luminous room and Chinese room may appear to be analogous to one another, they

\textsuperscript{117} Churchland and Churchland, 35.  
\textsuperscript{118} Churchland and Churchland, 35.  
\textsuperscript{119} Churchland and Churchland, 35.  
\textsuperscript{120} Churchland and Churchland, 35.  
\textsuperscript{121} Churchland and Churchland, 35.  
\textsuperscript{122} Churchland and Churchland, 34.
are truly not. The physical, causal powers of electromagnetic radiation and symbols are fundamentally different from one another. The relationship between electromagnetic radiation and light can be discovered through experimentation revealing physical properties intrinsic to electromagnetic waves. Symbols, on the other hand, have no intrinsic semantics of their own; they can only govern the next step in a computer program. For instance, someone in the Chinese room who does not understand written Chinese could easily imagine that the symbols were Japanese characters or even hieroglyphics from ancient Egypt. Since the luminous room is not truly analogous to the Chinese room, it is not a valid refutation of Searle’s original argument. Searle further warns computational functionalists against confusing simulation for duplication when it comes to artificial intelligence. A machine could easily be programmed to display “I love you” or “I understand what you’re saying,” but the fact that the machine can manipulate symbols to display these messages does not by any means indicate that it is actually in love or experiencing comprehension. Indeed, this very confusion of simulation for duplication apparently dooms computational functionalism as a plausible theory of the mind.

In all of the arguments above, from spectrum inversion to Nagel’s essay on the mind of a bat to Searle’s Chinese room, the common thread is that

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computational functionalism misses the mark as an acceptable account of the human mind. It ignores aspects of the mental world that are too important to exclude from a proper explanation of consciousness. However, now that computational functionalism and other materialist accounts of the mind have been refuted, the philosophy of the mind as a whole finds itself in a rather frustrating situation. Dualism in the Cartesian sense has been rejected since it cannot give a reasonable explanation of mind-body interaction. If the mind is an immaterial aspect of the soul, how can it ever act causally in the physical world? Materialism, on the other hand, gave a better explanation of mental causation by turning to neurophysiology, but ultimately could not account for qualitative or subjective mental experiences. If theories that envision the mind and body as two totally different substances are flawed and theories that assume they are both material also fall short, what possible options remain for philosophers? For some, this dilemma is sufficiently perplexing that they propose the mysteries of the human mind will never be discernable to scientists and philosophers alike, or anyone for that matter.\textsuperscript{130} Subscribers to this conclusion are called mysterians and it is rather easy to sympathize with their conclusion given the predicament described above.\textsuperscript{131} Still, contemplation of the human mind sparks so many thought-provoking questions that simply throwing in the intellectual towel seems downright unsatisfying. Instead, both materialists and dualists have proposed modified

\textsuperscript{130} Searle, \textit{Mind: A Brief Introduction}, 102.

\textsuperscript{131} Searle, \textit{Mind: A Brief Introduction}, 102.
versions of their original theories that may provide coherent explanations of man’s mental aspect.

NEW APPROACHES TO THE MIND-BODY PROBLEM

The major inadequacies of traditional functionalism discussed above have led some influential materialists to abandon classical artificial intelligence theory. Instead, they are looking to more innovative forms of computer technology for possible explanations of the mind. Paul and Patricia Churchland have put forth the interesting idea that computers organized like the brain may overcome some of functionalism’s previous difficulties. They believe that a computer that uses parallel processing rather than sequential computation will more accurately replicate human consciousness. Relying on reverse engineering, this architecture would mimic the brain’s own neuronal organization, where millions of different neural tracts constantly send, integrate, and process concurrent information. This organizational style would greatly increase computational speed when performing complex tasks, such as image recognition, and would make the artificially intelligent network resistant to error, since the impact of a single unit malfunctioning within the complex system would be negligible. By altering the synaptic weights of the system, or adjusting the strength of connections between

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132 Churchland and Churchland, 35.
133 Churchland and Churchland, 35.
134 Churchland and Churchland, 35.
135 Churchland and Churchland, 36.
various units within the network, a vast array of functions could be programmed.\textsuperscript{136} The Churchlands state that “one may even impose on [the network] a function one is unable to specify, so long as one can supply a set of examples of the desired input-output pairs.”\textsuperscript{137} Thus, the system could theoretically even learn by example.

While such a system holds great potential to revolutionize the realm of artificial intelligence, John Searle and others believe that parallel processing will undoubtedly inherit the same shortcomings that functionalism has always had.\textsuperscript{138} Ultimately, computation in all its forms, including both serial and parallel processing, is just syntactic symbol manipulation devoid of semantic meaning.\textsuperscript{139} Searle explains that any program that could be run using a parallel system could also be run on a serial system, which means that there is no intrinsic difference in the functional processes occurring in these two different types of computational architectures.\textsuperscript{140} Therefore, functionalism and artificial intelligence theory cannot be saved by models that mimic the brain since these alternative organizations will also fail to account for the subjective, first-person aspect of consciousness.\textsuperscript{141} Parallel processing may have the potential to propel robotics and computer science into unexplored territory and will inevitably lead to many amazing breakthroughs, but one of those breakthroughs will not be a computational replica of the human

\textsuperscript{136} Churchland and Churchland, 36.
\textsuperscript{137} Churchland and Churchland, 36.
\textsuperscript{138} Searle, “Is the Brain’s Mind a Computer Program?” 28.
\textsuperscript{139} Searle, “Is the Brain’s Mind a Computer Program?” 28.
\textsuperscript{140} Searle, “Is the Brain’s Mind a Computer Program?” 28.
\textsuperscript{141} Searle, “Is the Brain’s Mind a Computer Program?” 28.
mind. Once again, an account of the mind from a solely materialist point of view has fallen short.

Since so many descriptions of the mind in purely material terms have similarly proven insufficient and descriptions of the mind that rely on the purely spiritual have been incoherent, it seems new approaches to the mind-body problem must eschew these traditional categorical descriptions if they are to be plausible. John Searle embraces this very sentiment as he outlines his solution to the mind-body problem, called biological naturalism. Essentially, he tries to look at the relationship between the mind and the body without preconceived notions about the mental and the physical. In doing so, he concludes that the human mind is a system-level biological feature of the brain just as digestion is a system-level biological feature carried out by other organs. The key points in his theory are concisely outlined as follows:

1. Conscious states, with their subjective, first-person ontology, are real phenomena in the real world. We cannot do an eliminative reduction of consciousness, showing that it is just an illusion. Nor can we reduce consciousness to its neurobiological basis, because such a third-person reduction would leave out the first-person ontology of consciousness.

2. Conscious states are entirely caused by lower level neurobiological processes in the brain. Conscious states are thus casually reducible to neurobiological processes. They have absolutely no life of their own, independent of

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143 Searle, Mind: A Brief Introduction, 80-82.
144 Searle, Mind: A Brief Introduction, 79.
145 Searle, Mind: A Brief Introduction, 80-81.
the neurobiology. Causally speaking, they are not something “over and above” neurobiological processes.

3. Conscious states are realized in the brain as features of the brain system, and thus exist at a level higher than that of neurons and synapses. Individual neurons are not conscious, but portions of the brain system composed of neurons are conscious.

4. Because conscious states are real features of the real world, they function causally. My conscious thirst causes me to drink water, for example.146

Thus, Searle simultaneously upholds the reality of qualitative, subjective conscious states while firmly linking them to the physical world, which some may find contradictory.147 Although the mind may seem too ethereal to be confined to the physical realm, Searle insists, “There is no reason why a physical system such as a human or animal organism should not have states that are qualitative, subjective, and intentional.”148 In order to accept that the mind is at bottom a physical phenomenon, one must reconsider the narrow-minded, Cartesian notion of the mental and the physical as mutually exclusive.149 Searle asserts that qualitative, subjective mental experiences are temporally located in various parts of the brain, act through neural networks to cause subsequent mental events or physical processes, and are themselves products of neural networks within the

146 Searle, Mind: A Brief Introduction, 79.
147 Searle, Mind: A Brief Introduction, 81.
148 Searle, Mind: A Brief Introduction, 82.
149 Searle, Mind: A Brief Introduction, 83.
brain. From this description, one can recognize that mental processes are not really all that different from physical processes after all.

To further clarify biological naturalism in light of reductionism, Searle draws a clear distinction between causal reduction of the mind, mentioned in his second thesis quoted above, and ontological reduction of the mind, which forms the basis of functionalism. Stating that the mind is causally reducible to the actions of neurons is the same as saying that the nature of the mind is totally dependent on the behavior of various neural pathways and has no causal capacity beyond influencing neural activity. On the other hand, ontologically reducing the mind to the action of neurons declares that the mind is and can never be anything more than neural activity. Searle importantly states that, “in the case of consciousness we can make a causal reduction but we cannot make an ontological reduction without losing the point of having the concept.” In other words, if consciousness is redefined as simply the firing of various neural pathways or computational symbol manipulation, the first-person, subjective nature of the mental world is lost and what remains is a purely third-person, objective description. Further, Searle states that a causal reduction of the mind is not eliminative since it does not show that the mind is nonexistent. In fact, a reduction of consciousness can never be

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150 Searle, Mind: A Brief Introduction, 83.
151 Searle, Mind: A Brief Introduction, 83-86.
152 Searle, Mind: A Brief Introduction, 83.
154 Searle, Mind: A Brief Introduction, 83.
155 Searle, Mind: A Brief Introduction, 84.
156 Searle, Mind: A Brief Introduction, 85.
eliminative because it is impossible to show that consciousness is just an illusion.\textsuperscript{157}

As Searle states, “we cannot show that the very existence of consciousness is an illusion ... because where consciousness is concerned the appearance is the reality.”\textsuperscript{158}

By taking a fresh look at the mind-body problem and avoiding ontological reduction, it seems that Searle has presented the most plausible philosophical theory of the mind. Strict materialism, i.e., computational functionalism, was not successful since it ignored aspects of the mind that are really experienced day to day, such as qualia. Further, dualism was not as successful as biological naturalism since it could not give a sufficient explanation of mental causation and introduced seemingly unnecessary complications into the mind-body conversation. Importantly, Searle does grant that dualism cannot be totally refuted, since such a refutation necessitates a very broad, universal negative statement that cannot be proven.\textsuperscript{159} Instead of providing this absolute refutation, he argues against dualism by questioning its merits as a rational account of human nature, stating:

1. No one has ever succeeded in giving an intelligible account of the relationships between these two realms.

2. The postulation is unnecessary. It is possible to account for all of the first-person facts and all the third-person facts without the postulation of separate realms.

3. The postulation creates intolerable difficulties. It becomes impossible on this view to explain how mental

\textsuperscript{157} Searle, \textit{Mind: A Brief Introduction}, 85. \\
\textsuperscript{158} Searle, \textit{Mind: A Brief Introduction}, 85. \\
\textsuperscript{159} Searle, \textit{Mind: A Brief Introduction}, 91.
states and events can cause physical states and events. In short, it is impossible to avoid epiphenomenalism.\(^{160}\)

Although it seems that dualism will always remain a viable theory with regard to the philosophy of the mind, biological naturalism has up to this point provided the most coherent account of mind-body interaction. Searle avoids the major flaw of functionalism since he defends the reality of subjective, qualitative states and escapes the pitfalls of traditional dualism by firmly asserting that consciousness is inextricably tied to its underlying neurobiology.

**RELIGION AND THE MIND-BODY PROBLEM**

Searle’s biological naturalism thus represents a variation on nonreductive physicalism, which assumes that the mind is a higher-order feature of physical processes occurring in the brain.\(^{161}\) Though this view does not propose that physical laws explain all aspects of nature, it does assume physical laws are basic to our understanding of the mind and, more generally, the human person.\(^{162}\) Despite its “nonreductive” moniker, this philosophy clearly stresses the necessity of physical processes in producing consciousness.\(^{163}\) Therefore, nonreductive physicalists believe that the mind could not exist apart from its physical manifestation in the brain.\(^{164}\) Acceptance of this view then leads to the pressing question, how can a theory that denies the existence of an immaterial mind be reconciled with

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\(^{162}\) Schouten, 701.

\(^{163}\) Schouten, 701.

\(^{164}\) Schouten, 701.
traditional theological understandings of an immortal human soul or a spiritual God?

At first glance, it may appear that casting dualism aside necessitates a rejection of common theistic conceptions about personhood and the divine. This is because dualism and theism usually go hand-in-hand, as Maurice Schouten eloquently explains:

...Traditionally there have been strong conceptual ties between the theistic picture and a dualist recognition of ontological leaps between mind and matter. Theism is required to explain the special and unique features of human beings. At the same time, it has been argued that without a dualist conception of humanity, theism becomes impossible. Mind-body dualism is thought to be the principal model for understanding God and God’s relations to the material world. Our traditional notion of God has apparently been created in our own image, so that without a dualist account of the human agent, this notion of God in contradistinction to the world cannot be upheld.

Therefore, Schouten asserts that a dualistic understanding of the human person, in which a soul animates and interacts with a material body, is needed to reinforce our understanding of God as an immaterial entity capable of intervening in the physical world. In this sense, theism and dualism are codependent on one another for coherence and meaning. If it is the case that theism cannot survive without dualism, the consequences of nonreductive physicalism may be quite profound. As Thomas Wolfe describes, if people believe that, “the soul, that last refuge of values,

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165 Schouten, 681.
166 Schouten, 681.
167 Schouten, 701.
is dead, because educated people no longer believe it exists...the lurid carnival that will ensue may make the phrase ‘the total eclipse of all values’ seem tame.”¹⁶⁸ For if theism becomes intractable without a dualistic view of humanity, there is no longer a framework for moral codes based upon “a god who points at you with his fearsome forefinger and says ‘Thou shalt’ or ‘Thou shalt not.’”¹⁶⁹ Instead, the entirety of reality, including the human mind, becomes scientifically explicable and firmly rooted in the physical world; however, science cannot offer insight into matters of a moral or ethical nature since ethics and morality are not governed by natural laws.

According to Schouten an appropriate integration of nonreductive physicalism and theism that avoids this total moral relativism includes a necessary rethinking of the “God-world relation.”¹⁷⁰ Rather than trying to refute nonreductive physicalism or biological naturalism, Schouten believes that these theories of the mind should be embraced and theism altered accordingly.¹⁷¹ He states:

To suppose (as in a personal, theistic explanation) that consciousness is something superadded or annexed to matter by the action of God is to succumb to an unnecessary mysterianism. For theology, it offers no comfort to reduce God to a god of gaps filling in the explanatory gap of phenomenal consciousness. What I claim is that, extrapolating from the past (and current) successes of natural science, it is a legitimate bet that consciousness arises from the brain and that it can

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¹⁶⁸ Wolfe, 10.
¹⁶⁹ Wolfe, 6.
¹⁷⁰ Schouten, 701-705.
¹⁷¹ Schouten, 704.
ultimately be accounted for in the objective categories of natural science.\textsuperscript{172}

In light of this acceptance, Schouten proposes that new emphasis be placed on the unity and reciprocity among humanity, the natural world, and the divine.\textsuperscript{173} This will entail the use of new metaphors regarding the relationship between God and creation that take the place of current metaphors relying on mind-body dualism.\textsuperscript{174} Such metaphors must be able to highlight “that the cosmos is not adequately conceived as wholly dependent on an outside creator, but that the future, and even the very survival, of creation is a matter for dialogue between humanity and the ecosystem.”\textsuperscript{175} In other words, once nonreductive physicalism is accepted and the existence of a dual, spiritual realm is rejected, a holistic view of life based in the material can develop. The notion of an intimate unity among humankind, the natural world, and God, firmly rooted in “genetic, evolutionary, and historical processes,” will be needed to supplant the previously held “personalist and anthropocentric” image of God.\textsuperscript{176}

While such a rethinking of theism may allow for the integration of theism and nonreductive physicalism, some Catholic thinkers such as Alfred Freddoso wonder “why any Catholic philosopher would favor [nonreductive physicalism] over any and every theory that is consonant with the plain sense of Church teaching.”\textsuperscript{177}

\textsuperscript{172} Schouten, 702.
\textsuperscript{173} Schouten, 704.
\textsuperscript{174} Schouten, 703.
\textsuperscript{175} Schouten, 704.
\textsuperscript{176} Schouten, 704-705.
Freddoso asserts that proper first principles in the mind-body debate include Church teachings and Church doctrine.\textsuperscript{178} For instance, the \textit{Catechism of the Catholic Church} includes several important passages that shed light on the nature of the human soul, including:

\begin{quote}
With his openness to truth and beauty, his sense of moral goodness, his freedom and the voice of his conscience, with his longings for the infinite and for happiness, man questions himself about God’s existence. In all this he discerns signs of his spiritual soul. The soul, the “seed of eternity we bear in ourselves, irreducible to the merely material,” can have its origins only in God.\textsuperscript{179}
\end{quote}

Thus, it seems the Church has a very firm stance on the nature of the human soul that precludes the acceptance any form of materialism, including nonreductive physicalism, with respect to the human spirit and mind. Interestingly, Freddoso adamantly criticizes Cartesian dualism as well since this view is also far removed from Church teaching on the soul.\textsuperscript{180} Cartesian dualism treats the body and the soul as disparate substances interacting almost coincidentally within the same entity whereas Catholic teachings emphasize the oneness of the human person.\textsuperscript{181} The soul and the body are not treated as divisible parts of an accidental, temporary whole but rather as “complementary ‘essential parts’ of an organism whose unity is \textit{per se}.”\textsuperscript{182} As the Catechism states:

\begin{itemize}
\item \textsuperscript{178} Freddoso, 104.
\item \textsuperscript{179} Freddoso, 112, from \textit{Catechism of the Catholic Church}, no. 33.
\item \textsuperscript{180} Freddoso, 111-112.
\item \textsuperscript{181} Freddoso, 112.
\item \textsuperscript{182} Freddoso, 112.
\end{itemize}
The unity of the soul and body is so profound that one has to consider the soul to be the ‘form’ of the body: i.e., it is because of its spiritual soul that the body made of matter becomes a living, human body; spirit and matter, in man, are not two natures united, but rather their union forms a single nature.\(^{183}\)

Therefore, according to the Catholic Church, both nonreductive physicalism and Cartesian dualism provide faulty conceptions of the human person. Rather, the Church teaches that “human beings are unified substances with an immaterial formal principle” composed of mutually essential physical and spiritual aspects.\(^{184}\)

Additionally, Freddoso criticizes the notion that “the soul” is merely an outdated explanatory concept patiently awaiting its swift replacement by soon-to-be-discovered neurophysiological accounts of the human mind.\(^{185}\) On the contrary, he believes that teachings of the direct creation of the human soul by God serve as testaments to “the dignity and singular ontological status of the human animal.”\(^{186}\) The soul is not an instrument to explain human intellect, but rather the source of human dignity. Further, Freddoso does not see neuroscience as a threat to Catholic beliefs about the spiritual, but instead as a tool that can more clearly illuminate the intimate connection between the complementary material and immaterial components of humanity.\(^{187}\) He explains:

Even though the doctrine of the immateriality of the soul entails that our higher cognitive and appetitive

\(^{183}\) Freddoso, 112, from *Catechism of the Catholic Church*, no. 365.
\(^{184}\) Freddoso, 113.
\(^{185}\) Freddoso, 108.
\(^{186}\) Freddoso, 108.
\(^{187}\) Freddoso, 110.
operations are not themselves operations of the brain, the anti-dualistic nature of the Catholic view of the human animal...should antecedently prepare us to expect that such higher operations will depend heavily on the normal functioning of the brain and central nervous system. So the fact that they are thus dependent and the discovery of the precise ways in which they are dependent are hardly an embarrassment for the Catholic perspective.\footnote{Freddoso, 110.}

Hence, the Catholic conception of the mind-body-soul relation is ultimately compatible with a neurophysiological account of the mind. So it seems that this viewpoint represents an acceptable alternative to Searle’s biological naturalism that is simultaneously harmonious with scientific discovery and divine revelation while walking the fine line between materialism and dualism.

St. Thomas Aquinas also provides an account of the human soul that many describe as a promising alternative to pure materialism or Cartesian dualism.\footnote{G. Klíma, “Aquinas on the Materiality of the Human Soul and the Immateriality of the Human Intellect,” \textit{Philosophical Investigations}, 32:2(2009): 163.} Further, his description of the body-soul interaction is consonant with Church teachings, just as Freddoso’s viewpoint discussed above. However, an understanding of his philosophy of the soul first requires an understanding of his concepts of both “subsistent” and “inherent” forms.\footnote{Klíma, 169.} According to Gyula Klíma, a form in general is “whatever is signified by our common predicates in individual things” so long as the predicate is actually true of the subject to which it is in reference.\footnote{Klíma, 165.} In other words, if the statement “this paper is white” is true, which it obviously is, then “white” would be a form of the subject to which it is referring,
The distinction between subsistent and inherent forms is made by looking at the way in which various forms relate to their subject. If a form cannot exist independently apart from its material subject, it is an inherent form, but if a form is something that primarily exists independent of its subject’s material organization, it is a subsistent form. For example, “white” would be an inherent form since it refers to the physical nature of any subject whereas “good” would be a subsistent form since the concept of “goodness” exists primarily, independent of its material manifestation in a subject.

Importantly, Aquinas claims that the human soul, and the human soul alone, is both inherent and subsistent. From this perspective, the human soul is something “inherent in the matter of the human body” as something that animates the flesh and imparts life to the material, but it is also subsistent since it has a nature of its own that is not dependent on its material actualization. For instance, saying someone is human can simultaneously mean the person is materially organized as a human organism and also that the person embodies the abstract conception of “humanity” that exists independent of any bodily manifestation. In the same way, a person’s soul is inextricably linked to a person’s bodily organization, but the soul also has an independent, primary existence apart from the material. With this understanding, “it is also possible that

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192 Klima, 164.
193 Klima, 169.
194 Klima, 171.
195 Klima, 169.
196 Klima, 171.
197 Klima, 171.
the soul's separation from the body in death only means that it loses one of these *modes* of being...while it retains its act of being in the other mode.”¹⁹⁸ Essentially, the inherent form of the soul may be lost at death along with the human body, but the soul in its subsistent form is immortal and can continue to exist forever.¹⁹⁹

The question of why the soul must be inherent and subsistent rather than solely inherent is also addressed by Klima, for if the soul were purely inherent, materialism would certainly result. As he states, “The human soul *has to be* a subsistent (as well as an inherent) being because it has its own activity, and its own power whereby it exercises this activity, namely, understanding or intellect.”²⁰⁰ To explain this point, he makes a clear distinction between material perception and soulful intellection as follows:

For clearly, if I see something, then the act of my sight is the activity of my visual organs, my eyes, optical nerve and cerebral cortex. The lesion of any of these organs would at once terminate this activity. By contrast, Aquinas’ claim that intellectual operations, namely, the formation of universal concepts, judgments and reasoning, are the activities of the intellective soul alone amounts to the claim that these activities are not the activities of any material organ of our bodies. To put it simply, we do not think with our brains. Our brains simply provide highly processed sensory information for our thinking performed by our intellect, but the intellectual activity itself is not the activity of our brains.

Once it is firmly established that the soul has its own activity distinct from the perceptual activity of the brain, it is easy to see that the soul should be able to

¹⁹⁸ Klima, 171.
¹⁹⁹ Klima, 171.
²⁰⁰ Klima, 172.
perform its intellective functions whether it is in union with a corporeal being or not.\textsuperscript{201} In addition, “since only something existing can be active, then [the soul] should also be able to exist whether it is united with the body or not; therefore, it has to have the natural ability to survive its separation from the body: it is immortal.”\textsuperscript{202} Thus, Klima has shown how Aquinas’ conception of the soul bridges the gap between materialism and dualism by coherently relaying the necessity of the soul’s inherence and subsistence. On one hand, the soul is inherent in the matter of the human body because it is a form intrinsically linked to the animated, living body properly organized.\textsuperscript{203} On the other hand, the soul is subsistent because it has its own activity independent from the activity of the human body and brain, i.e., intellectual reasoning.\textsuperscript{204}

Overall, Catholic philosophers have provided two similar accounts of the mind-body-soul relationship that seem to adequately address the complexities of this issue. Alfred Freddoso’s conception of the mind and body as two essential parts of a unified whole and Aquinas’ understanding of the soul as inherent and subsistent both form a fertile middle ground in the materialism/dualism debate. They approach the mind-body problem in a manner similar to Searle, ignoring categorical descriptions of the mind and body as solely “spiritual” and purely “physical,” respectively. Springing from this open-minded approach are rational theories of the mind and soul that comply with Church doctrine and leave room for

\begin{thebibliography}{99}
\bibitem{201} Klima, 172-173.
\bibitem{202} Klima, 173.
\bibitem{203} Klima, 169.
\bibitem{204} Klima, 172.
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neurobiological advancement. Therefore approaches to the mind-body problem from materialism and approaches to the mind-body problem from Church teachings have both provided seemingly reasonable explanations of humankind’s mental aspect. Searle’s biological naturalism, Freddoso’s essentialism, and Aquinas’ unique philosophy all appear plausible. So, how can one then discriminate which of these is the truest account of the mind? This question constitutes the most pivotal inquiry into the mind-body problem and it is one that most certainly cannot be answered easily.

CONCLUSION

Ultimately, the only real answer to this question depends on individual judgments about both faith and reason. Explanations of the human mind can proceed in either of two directions.\(^\text{205}\) If one agrees with the assumptions made by materialist philosophers of the mind, including, to some extent, John Searle, one will be obliged to a “downward” investigation of the mind into the neurobiological depths.\(^\text{206}\) On the other hand, if one favors the teachings of the Catholic Church and a theologically acceptable interpretation, one will be more inclined to an “upward” approach to the mind-body problem directed toward the soulful and the divine.\(^\text{207}\) In the words of Thomas Dailey and Peter Leonard, “to the reader the ultimate question is ‘Do you mind?’” whether human reality is physical or

\(^{205}\) Schouten, 701.
\(^{206}\) Schouten, 701.
\(^{207}\) Schouten, 701.
personal.” Unfortunately, a more concrete answer about whether materialism or dualism is undeniably true seems out of grasp.

Nevertheless, some insight into the consequences of these two approaches may be helpful for some further guidance. Throughout this investigation into the nature of the human mind, the possibly radical consequences of a primarily material view of life have been outlined. Most disturbingly, absolute materialism seems to point society towards moral relativism, though this may not lead to the utter debauchery referenced by Thomas Wolfe so long as laws continue to dictate the limits of acceptable behavior. However, it will inevitably remove any moral or ethical meaning behind these laws, for the scientific view of life cannot shed any light on morality or ethics, as previously mentioned. Instead, issues of morality and ethics become decided upon by consensus of opinion with no possibility of appeal to the divine or spiritual.

Taking these consequences into account, it seems hard to favor the materialist perspective on the philosophy of the mind, especially when equally plausible theories based in theology are available. In addition, the explanatory gap that exists between the brain and consciousness or the brain and the mind is so great that it seems just as difficult to comprehend and make clear as theological explanations. In fact, Maurice Schouten states that “many have maintained that the explanatory gap between qualia and the mechanisms of the brain is so wide and

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209 Schouten, 701.
so principled – we cannot even imagine how it could be closed – that it is misguided to seek an explanation in the (downward) direction of certain physical properties.”

Therefore, all else being equal, the views of St. Thomas Aquinas and, more recently, Alfred Freddoso appear to be favorable to John Searle’s biological naturalism. Given a choice between a theory that regards the mind as absolutely material and alternative theories that leave open the possibility of the spiritual, one should think the latter to be more preferable. The true nature of the human mind may never be known with absolute certainty, but the very refusal of the mind to be scientifically explained seems to bespeak its higher locus of being. The following words of William Cheshire serve as thoughtful advice to guide inevitable future debates in the philosophy of the mind:

Neuroscience now peers into the gap between brain and mind. This gap, like the synapse, may be thought of as both continuous and discontinuous. The task of science is to seek to fill explanatory gaps. And yet, there are questions that science alone cannot answer with certainty. Though all of nature is subject to scientific investigation, not all that is true regarding the nature of things and minds can be apprehended through the scientific method. Science properly understood accommodates a creative tension between what can be seen and what is abstractly reasoned, between what is known and what can be imagined.

Gaps persist. They force us to seek answers more earnestly. Some answers come not as solved mathematical formulae but as wondrous epiphanies unwritable by equations but hintable through metaphor. Ignoring these gaps, one might measure the brain

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210 Schouten, 701.
completely without fathoming the mind or contemplating its Maker.\textsuperscript{211}

\footnotesize\textsuperscript{211} Cheshire, 143.
WORKS CITED


