

A Discussion of the Foundations of Philosophy of Mind

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Abstract

In this article I have dealt with the salient features of the Mind and the Body, the Mind-Body Relationship; Dualism and Interactionism¹, the Relationship between the Mind and the Machine through the lens of Functionalism, Computational Functionalism and Mind and lastly the chapter will be emphasized on the conceptual orientations, argumentations with regard to determining the gap of Research and the implication of methods of the Research. In this article I argue that particular area of argumentation in philosophy which often seems to be interdisciplinary in nature. When someone starts to talk about the idea of mind in the realm of Philosophy of Mind it leads a bypass of metaphysics. It eventually leads one to talk about the nature of minds which is a metaphysical question about the mind. As soon as we ask this metaphysical question as to what the nature of the mind is, we are led to ask an epistemological status as to how we know how we know the mind?² As it has been considered in the realm of Philosophy of Mind that the mind is a non-physical substance without extension and space that acts as a function of the central nervous system of the brain and computational processes as well.³ Still, several significant queries and questions presents in the researchers of the field of Philosophy of Mind. Among such queries and questions, the very fundamental question remain unanswered in certain respects are; What is Philosophy of Mind? What is not Mind in Philosophy of Mind? and why this is Philosophy of Mind? etc.

Keywords: Philosophy of Mind, Mind-Body Dualism, Mind-Machine Relationship, Psychology, Mind

¹ Mind-Body Relationship is a fundamental issue in Philosophy of Mind which deals with the question as to how the two entities such as the mind which is non-physical, non-extended and non-local and the body which is local, extended and is physical interact with each other? Descartes formulated a solution to this problem by accounting for the Pineal Gland which is located in the brain. But the question remains as to how this takes place, the pineal gland being a local entity just like a body, so how can a located principle or an entity explain the interaction between something which is localized and something which is non-local.

² Edward Feser, *Philosophy of Mind: A Beginner's Guide* (New York: Simon & Schuster, 2006), 7. Knowing what the mind is dependent on the premise as to how we can know the mind. The metaphysics of the mind is connected to the epistemology of the mind entirely. To know what is a mind, we need to firstly know how we will go on about the knowing of our own minds and the minds of others. Just as to know and have knowledge about a particular object and to know what that object is, we need to be sure about the tools we will use to investigate the nature of mind and then only we can proceed with knowing about the object in general.

³ Edward Feser, *Philosophy of Mind: A Beginner's Guide* (New York: Simon & Schuster, 2006), 7. This definition of mind tries to give a definition of mind which encompasses all the theories of mind such as the theory of substance dualism (according to which the mind is non-physical substance), mind-body identity theory (the mind is a function of the central nervous system {CNS} which is identical to CNS or the brain), behaviorism (disposition to act in certain ways which comes within the proposition that the mind is a function of the Central Nervous System), Functionalism (the mind is a function) and Computational Functionalism (the mind is a function and this function is a computational process as well).

Introduction

The Philosophy of Mind is one of the liveliest fields in contemporary philosophy which intersects metaphysics, epistemology, philosophy of science and language. The field of philosophy of mind is divided into such areas as: the mind-body relationship, theories of mind such as mind-body identity theory, behaviorism, functionalism, epiphenomenalism, computational functionalism, consciousness theories, the conception of mental representation, the philosophy of language, the philosophy of psychology and action theory.⁴ Nothing can be more familiar and closer to us than the contents of our own minds, but questions such as What is this mind? What is the nature of mind? Is it physical, non-physical or an amalgamation of both? Where is the mind located? Is it non-local (extended) or local (non-extended)? What are the different theories of mind? What do the different theories say about nature and location of the mind? These are some of the pressing questions in the field of philosophy. Philosophy is a discipline which asks about the fundamental questions of life, reality and the universe. It asks metaphysical questions about the nature of reality, epistemological questions about the knowledge of reality and the normative questions about the value of things. In the same way, Philosophy of Mind is a subfield of philosophy which investigates about the mind philosophically. It asks metaphysical questions about what the mind is, about which things have minds and about how the mind fits into reality. Philosophy of mind asks normative questions about the value of having a mind and how things with minds ought to be treated.⁵

The cognitive scientists in the field of cognitive science also talk about the concept of what a mind is, it also investigates the nature of mental phenomena and mental functions. A question can be raised that if cognitive scientists can answer the questions that are raised and asked related to the mind, then what is the need of philosophy of mind to answer the questions related to mind and its nature? The answer is that there are many questions related to the mind and mental phenomena that the field of cognitive science cannot answer because the field of philosophy of mind calls into question the very assumptions based on which the cognitive scientists try to ask about the nature of mind and mental functions. The job of the field of philosophy of mind is to show whether the arguments and assumptions offered by the cognitive scientists to find answers related to the nature of the mind are based on firm groundings or not. Philosophy of mind aims to offer a broader perspective and foundation of mind which the other disciplines cannot fathom to do. Of course, philosophers of mind will also take assumptions while trying to give an account of mind, but for the philosophers of mind, all these assumptions will be open to further arguments and questionings, which is not the case with other disciplines such as neuroscience, cognitive science and psychology. Questions about the mind are important and philosophy has an indispensable role to play in the study of the mind.⁶

From the ancient period of philosophy, philosophers have wondered about what exactly is a thing called a “mind”? What sort of thing is it? Is it a non-physical thing like a spiritual soul? Or is it a physical thing like a brain or maybe the whole central nervous system? Is the mind a thing at all? Can it be best understood as a sort of process or a function rather than a thing? Over the centuries different philosophers have given different answers to these questions. Today, although some proposed views about the mind are less

⁴ Jaworski, William, *Philosophy of Mind: A Comprehensive Introduction* (John Wiley & Sons, 2011), 1. Each theory of mind tries its best to work through the problems of the mind and find a solution, the solution of which is presented by other theories and this goes on and on as it goes. There is no final conclusion or a solution to the problems raised in Philosophy of Mind as even if we argue that there is a solution of a certain sort, then that solution itself has been proposed from a certain standpoint and so it will be limited, so to give a solution to the fresh problem, we need to give new theory of mind and conceptions.

⁵ Tom McClelland, *What is Philosophy of Mind?* (Hoboken: John Wiley & Sons, 2021), 1-2.

⁶ McClelland, *What is Philosophy of Mind?*, 2

promising than others, but still there is no universal agreement as to which theory of mind is the best or the most accurate one. Each has got some advantages and its own set of problems.⁷ Everyday people accomplish a wide range of mental tasks such as solving problems at their work or school, making decisions about their personal life, explaining the actions of people they know. Understanding how the mind works is important for many practical activities. Educators need to know the nature of students' thinking to devise better plans for teaching them. Engineers and other designers need to know what potential users of their products are likely to be thinking when they use their products effectively or ineffectively. Computers can be made more intelligent by reflecting on what makes people intelligent.⁸ Attempts to understand the mind and its operations go back to at least to the times of the Ancient Greeks, when philosophers such as Plato and Aristotle tried to explain the nature of human knowledge. Plato thought that the most important knowledge comes from conceptions such as virtue that people know innately and independently of sense experience. Other philosophers such as Descartes and Leibnitz also believed that knowledge can be gained just by thinking and reasoning, a position known as rationalism. In contrast to this position, Aristotle discussed knowledge in terms of rules such as All humans are mortal that is learned from experience. This philosophical position was defended by Locke, Hume and others and this position is known as empiricism. Further, Kant attempted to combine rationalism and empiricism by arguing that human knowledge depends both on sense experience and the innate capacities of the mind.⁹ In recent times, a new understanding of mind has come to the forefront called as the Computational-Representational Theory of Mind according to which thinking can be best understood in terms of representational structures in the mind and computational procedures that operate on those structures.¹⁰

There have been many problems that have been raised in the field of philosophy of mind which are as follows – Mind-Body Dualism which is the problem of explaining that if the mental and the physical are very different, then how can they possibly relate to each other in the ways we commonly suppose them to relate? For example, how can minds have effects on bodies and vice-versa?¹¹, the problem of perception which involves a conflict between two individually ideal ideas about the nature of perception. The first is that when we perceive, we are thereby in a direct sort of relation to some object in the world. When I open my eyes and see a red book on the table before me, I am thereby in relation to that red book. The red book is there, and my perceiving it is a kind of openness to this object in the real world. The second idea about perception is the idea of misperceptions and hallucinations. So, the problem of perception in philosophy of mind consists of the dichotomy between the accurate perception of a real object and a false perception of a hallucinated object as both can appear to be the same.¹², the problem of other minds deals with the problem of how is it possible to get a direct knowledge of the mental states of others because we can only infer about the mental states of the other through inference by seeing their outer behavior¹³, the problem of artificial intelligence, the problem of consciousness, the problem of free-will, the problem of intentionality and the problem of personal identity – these are some of the key and important problems in the field of philosophy of mind.

⁷ Suzanne Cunningham, *What is a Mind?: An Integrative Introduction to the Philosophy of Mind* (Indianapolis: Hackett Publishing, 2000), 1.

⁸ Thagard, *Mind: Introduction to Cognitive Science*, 4.

⁹ Thagard, *Mind: Introduction to Cognitive Science*, 5-6.

¹⁰ Paul Thagard, *Mind: Introduction to Cognitive Science* (Cambridge: MIT Press, 2005), 10.

¹¹ Pete Mandik, *This Is Philosophy of Mind: An Introduction* (Hoboken: John Wiley & Sons, 2022), 7

¹² Mandik, *This Is Philosophy of Mind: An Introduction*, 9-10.

¹³ Mandik, *This Is Philosophy of Mind: An Introduction*, 9-10.

In the middle of the 20th century, a new theory started to emerge in the field of philosophy of mind called as Computational Theory of Mind (hereafter, CTM) which identified the mind as a computing system by arguing that the nervous system is the main biological organ of the mind, and according to the computational theory of mind, the nervous system and the brain in particular implements mental computations. But certain questions need to be addressed when we are addressing the notion of computational minds such as: What are computing systems and how do they differ from systems that do not compute? Are all aspects of mind computational? That is, can every aspect of a mind be explained in terms of the relation of sensory inputs, behavioral outputs and other mental states? Do mental computations processes have representations? How do different computing processes produce and explain different kinds of mental phenomena? What are the arguments for and against the CTM? Matteo Colombo and Gualtiero Piccinini in their book “The Computational Theory of Mind” argue that there is no one theory of computational mind, but rather there a family of views which amount to the computational theories of mind. CTM is a bundle of research programs that try to explain and model mental capacities computationally.¹⁴

PERIODIC TABLE OF COMPUTATIONAL FUNCTIONALISM			
Period	Thinker	Conception	Nature Of Theory
Middle Ages	Muhammad ibn Musa al-Khwarizmi	Developed techniques for solving various mathematical problems such as algebraic equations. The word “algorithm” was derived from his name which means “mathematical procedure guaranteed to solve every instance of a general problem.”	Algorithmic
1232-1315	Ramon Llull	Devised a mechanical system for argumentation.	Mechanistic
1596-1650	Rene Descartes	Developed details accounts of perception, action, memory and emotions in terms of mechanical processes respond to external stimulations by following a sequence of pre- determined operations.	Pre-determined
1596-1650	Rene Descartes	Developed details accounts of perception, action, memory and emotions in terms of mechanical processes respond to external stimulations by following a sequence of pre- determined operations.	Pre-determined

¹⁴ Matteo Colombo and Gualtiero Piccinini, *The Computational Theory of Mind* (Cambridge: Cambridge University Press, 2023), 1.

1588-1679	Thomas Hobbes	Identified thought and reasoning with computation, computation according is understood as the mathematical operations.	Mathematical
1596-1650	Rene Descartes	Developed details accounts of perception, action, memory and emotions in terms of mechanical processes respond to external stimulations by following a sequence of pre- determined operations.	Pre-determined
1588-1679	Thomas Hobbes	Identified thought and reasoning with computation, computation according is understood as the mathematical or arithmetical operations of addition and subtraction.	Mathematical
1646-1716	Gottfried Wilhelm Leibnitz	Designed a device for general reasoning which would follow a system of formal operations for combining and recombining simple linguistic symbols.	Formal-Symbolic
1815-1864	George Boole	Gave emphasis on the conception of Boolean Algebra, where the value of the truth values of true and false which can often be written as 1 and 0. Tried to implement the abstract rules of an algebraic function in a concrete physical system.	Algebraic
1791-1871	Charles Babbage	Designed a programmable device called Analytical Engine, which uses punched cards to implement the rules for calculating mathematical functions. programmable	Analytical
1815-1852	Ada Lovelace	Argued that the Analytical Engine can perform whatever Computational Processes we can give it to perform. Computation cannot be the basis of creativity.	Non-creative computation
1912-1954	Alan Turing	Developed a theoretically rigorous and formal model of digital computation known as the Turing Machine.	Theoretical and Digital

1943-1949	McCulloch	Argued about the all-or-none activity of the nervous system. Typical neurons either send a powerful signal down their axons, which can excite or inhibit other neurons, or do not signal at all.	Neurophysiological
1943-1950	Walter Pitts	Argued that the artificial neural networks can implement computations underlying mental capacities	Artificial Neural Network Computation
2000-2003	George Miller	Gave a weak version of computational theory of mind according to which some processes of the mind can be explained computationally but consciousness cannot be explained computationally.	Weak version of Computationalism
1945-1958	Von Neumann	Described the architecture of a digital processor with a central processor, control and memory units and input-output mechanisms.	Mechanistic
1960	Hilary Putnam	Gave a theory of functionalism according to which mental states like beliefs, thoughts, willingness and volitions are defined by what they are made up of, but rather by what they do, that is by their causal roles within a system, in terms of the physical realizers that play the functional role.	Functionalist
1982	Newell	A Computing System can be studied and understood, such as the knowledge, symbol and register-transfer levels	Symbolic
1988	Jerry Fodor	Artificial Neural Networks seems unable to explain seemingly central properties of thought and reasoning like their systematicity, whereby a thinker who can think that the dog chases the cat is also able to think that the cat chases the dog	Connectivism

Figure No. 1.1: (The Periodic Table of the Computational Theory of Mind)

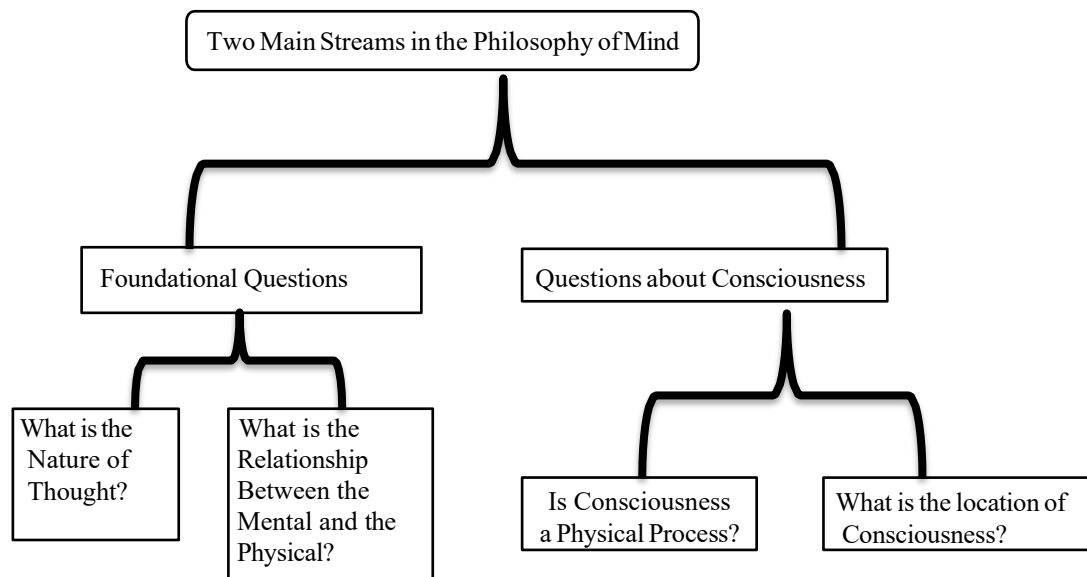


Figure 1.2: (Mainstreams in Philosophy of Mind)

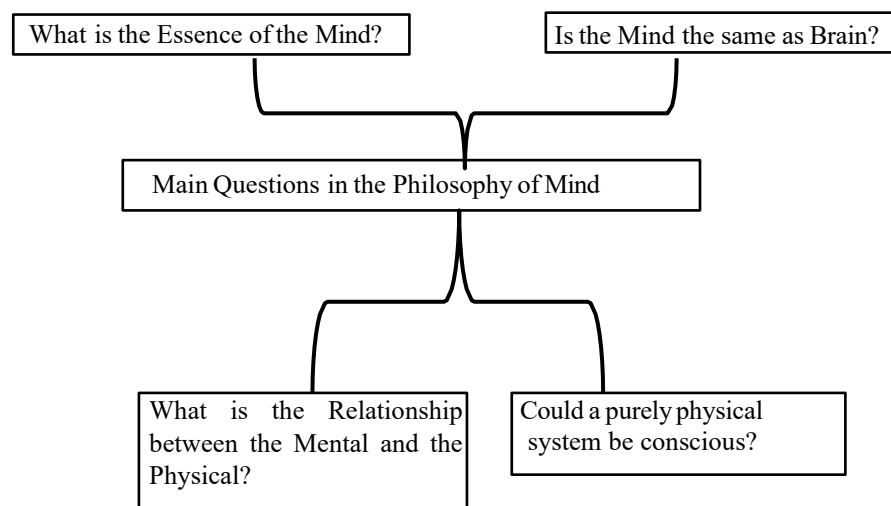


Figure 1.3: (Main Questions in the field of Philosophy of Mind)

Salient features of the Mind and Body/Matter

Bending spoons “mind over matter”, which is also known as psychokinesis seems to be a thing of dreams, cinema and trickery. Since the start of the nineteenth century, scientific researchers have wondered about the influence and the interaction that can happen between mind and matter, what influence the mind can have on matter and vice versa. Further scientific researchers have investigated the possibility of acting on physical material solely and purely to find any such solid empirical evidence or factual explanation of this phenomenon. The notion of using one’s mental power over matter persists, but the only credible arena in which the mind has control over the matter is the corporeal. The fact that spoons can’t bent by the mind, though doesn’t mean that material is impervious to the mind’s volition. Since the dawn of technology, we humans have strived to reshape material, to “bend it” to our will. Our bodies, our hands, were the first agents of the mind; they have been replaced in the past few centuries by mechanical and now by digital devices. As we continue to transform the whole of our physical environment into a product of the mind’s

increasingly disembodied activities, it only increases our confidence in our minds and thought dominance over physical reality.¹⁵ On the one hand there is an experience of mind and on the other hand there is what we call the body/matter. According to Descartes theory of substance, there is no distinction between the body and matter as both are extended in space and time, so whenever I use the word body and matter, I am referring to the same reality. According to Descartes the body is extended in space and time, whereas the mind is non-extended in space and time. This leads to the epistemic gap between the relation and the knowledge of a mind and a body.¹⁶ There can be certain metaphysical implications of this gap which are of greater relevance to the philosophy of mind. Is the mind-body/world gap only a gap in the knowledge the mind has of the physical world, or is there something more to it? Or is it that the mind and the material world are fundamentally different kinds of things, with the mind itself being immaterial or non-physical, or soul or a spirit existing over and above the brain.¹⁷ The qualitative feel of something, to taste something, to hear something, the feeling of tasting, of hearing, the way things look, feel, smell, taste and sound – are referred to by philosophers as qualia (singular ‘quale’), which is one of the most important features and characteristics of a mind. Qualia are not a chaotic mix of sensations that we experience, but rather qualia are a feature of the mind which also has a meaning and significance in the sense of representing the world in a certain way. This feature of representing the world is what philosophers have called intentionality, the property of being directed towards or being about something. Qualia and Intentionality constitute two of the most important features of a mind. The mind seems to be very different in features from the external reality of matter/body – a reality which is mind-independent, objective and devoid of any point of view.¹⁸ In Descartes view, the body and the mind seem to be radically different. The body is an extended thing constituting of length, breadth, height and other physical dimensions and is composed of physical molecules, atoms and subatomic particles.¹⁹

According to Leibnitz’s law of identity of indiscernibles, x is identical with y if all properties of x are identical with y and all properties of y are identical with x. In the case of mind and body, if there are one or more properties that the mind has and the body doesn’t have, then the mind is not identical with the body and in the same way if there are one or more properties the body has, but the mind doesn’t have then the body is not identical to the mind. The first difference between the mind and the body originated with the view of Rene Descartes about substance dualism according to which the mind and the body are distinct substances with distinct features and properties. The body is physical, whereas the mind is non-physical, the body is extendable in space and time, whereas the body is extendable in space and time. Bodies are spatial in nature, whereas minds are non- spatial in nature which means that the body has spatial parts and has a specific location, whereas the mind in contrast to the spatial nature of the body is non-spatial in nature.²⁰ We cannot confine mental states such as volition, belief, thinking and willing as being confined to a specific location or spatial location and therefore we cannot say that the mind has spatial features. Yes, the belief and the thought or a mental state about an object in the physical world does not have a specific location, but there is no location for the belief about that object. For example, a belief about the Eiffel Tower, in this belief, the object, the physical object the Eiffel Tower has a specific location in space

¹⁵ Christopher Bardt, *Material and Mind* (Cambridge: MITPress, 2019), 16.

¹⁶ Feser, *Philosophy of Mind: A Beginner's Guide*, 14.

¹⁷ Feser, *Philosophy of Mind: A Beginner's Guide*, 15.

¹⁸ Feser, *Philosophy of Mind: A Beginner's Guide*, 17.

¹⁹ Feser, *Philosophy of Mind: A Beginner's Guide*, 20.

²⁰ Feser, *Philosophy of Mind: A Beginner's Guide*, 17.

and time, but the fact that Eiffel Tower has a spatial location in space and time doesn't settle the question concerning where the belief about the Eiffel Tower itself is.²¹

Further, where we feel the mental state of being in pain to be, doesn't settle the question of where that pain is happening. For example: There is a well-known phenomenon known as "phantom-limb", where individuals feel the sensations of pain where actually they don't have that body part. Someone who doesn't have a hand might start feeling a sharp sensation of pain in his/her hand, the amputees suffer from what they call as phantom-pains – it will feel as if they have an intense pain in a hand that was lost a long time ago. So, a pain, a mental state can exist without any medium to have it – that the pain can exist in a body part that no longer exists. But the physicalists can challenge this argument that the pain or a particular mental state is in the cerebral cortex of the brain, so it does have a location. Even though, it is apparent where my belief about Eiffel Tower or the sensation of pain that I feel is, but nonetheless according to the physicalists the mental state does have location (spatial location), perhaps in the cerebral cortex of the brain. A mind is a thinking thing whereas a body is a non-thinking thing. This contrast between the mind and the body as thinking things and non-thinking things respectively can be traced to the theory of substance dualism given by Rene Descartes. Descartes holds that minds are thinking things, and the physical objects are non-thinking things. Only a mind can perform a rational activity, whereas a body is not capable of performing a rational activity such as thinking. A mind is something which has the capability and the potentiality to perform a rational activity whereas the body doesn't have the potentiality and the capability to perform a rational activity.²² Another difference between the mental and the physical that is held by Rene Descartes is that the mental state/mind has the property of intentionality or being about something, this "aboutness" or the "intentionality" is a feature of non- physical objects only. But there is a challenge to this position that mental states are intentional, that they are about something, but we often see that the mind can very well refer to and intend objects that don't exist like unicorns and flying horses.

Another feature of the mental and physical or the mind and the body respectively is that the mind is capable of bearing properties that are phenomenal, phenomenal in the sense that there is something it is like to be in that mental state, thinking, belief, volition and willing. The qualities of mental states such as pain and thinking have a certain qualitative feel to it, that it is something it is like to be in that state. A body/physical object lacks this capacity to bear phenomenal properties. The most interesting feature that the mind and the body seem to have been certainty and the degree of clarity of having a knowledge of a mind and having the knowledge of a body.²³ To know a mind is certain, but to know a body is uncertain because we can be wrong about the existence of physical object and bodies, but it is pretty hard to be wrong about the knowledge we have of our own minds. If I think that I am thinking then it is guaranteed to be correct and if I am thinking, then there exists a mind that I have. Mind is known with certainty to exist even though no physical object and bodies are known to exist with certainty.²⁴ The knowledge we have of our own minds is known directly through the medium of introspection, whereas the knowledge that we have of our bodies is known through an inference from our own bodily behaviors and reactions and based on that extrapolating the behavior of others.

²¹ Feser, *Philosophy of Mind: A Beginner's Guide*, 20.

²² Mandik, *This Is Philosophy of Mind: An Introduction*, 17.

²³ Mandik, *This Is Philosophy of Mind: An Introduction*, 17.

²⁴ Mandik, *This Is Philosophy of Mind: An Introduction*, 17.

FEATURES OF MIND	FEATURES OF BODY
Non-Physical	Physical
Non-Extendable (Space and Time)	Extendable (Space and Time)
Non-Spatial (has spatial parts and spatial locations)	Spatial (has no spatial parts and no spatial locations)
Thinking Thing	Non-Thinking Thing
Has the potential and the capability to perform rational activity	Has no potential and the capability to perform rational activities
Capable of bearing properties that is phenomenal ('phenomenal' means the 'what-it-is-like' aspect of experiences)	Not capable of bearing properties that are phenomenal

Figure 1.4: (Features of the Mind and the Body.)²⁵

Mind or the mental states can be distinguished from matter/non-mind by being states of the mind. A mind is a state of the mind, whereas a non-mind is not a state of the mind. But a question can be further asked that what makes something a state of the mind rather than a state of the body as we apply the word 'mental' to some states of mind and not to others, so our classification of what constitutes as a feature of mind and what constitutes as a feature of body is ambiguous and arbitrary.²⁶ A mind can have intentionality towards an object even without the existence of the object. For example – A desire to find the Holy Grail is about the Holy Grail, even if no such objects exist. A perceptual experience of a floating dagger is about a floating dagger, even if no such dagger exists. A state of the mind being about something does not entail that the thing exists. Further, intentionality as a characteristic feature of the mind also marks another feature of the mind and highlights another feature of the mind, with the feature and characteristic of intentionality, comes the feature of having a perspective on the world. A human being's mind has a certain perspective on the environment and about the world, but a chair (matter) cannot be said to have a particular perspective on the world or about the world.²⁷

Mind-Body Relationship

To start talking about the mind-body relationship would be incomplete without talking about how does anything in the body cause anything in the mind. How does anything in the mind cause anything in the body? There are two fundamental problems in the relationship that exists in the mind-body relationship – The first one is that how can anything physical introduce an effect in my soul which is non-physical? and the second problem is how an event in my soul affects the physical world? how can brain cause minds? A different problem in the mind-body relationship is the problem of other minds. According to this problem, we can very well know what is going on inside our heads by the faculty of intuition and introspection, but how can I know what is going on inside the mind of another person? It's only through the faculty of inference that certain types of behaviours manifest on certain types of feelings, how do I know that you have a mind? How do I know that you have a mind only if what I am aware of is the mind of someone? How can I know what is going on inside the mind of someone else based on outward behavioural

²⁵ Mandik, *This Is Philosophy of Mind: An Introduction*, 17.

²⁶ Mandik, *This Is Philosophy of Mind: An Introduction*, 16-18.

²⁷ McClelland, *What is Philosophy of Mind?*, 11.

manifestations?²⁸ When Rene Descartes argued about the nature of perception, he stated that there is an epistemological gap between the way the objects of the world present to us and the way the outside reality of the world is there. There is a gap in the experience of the physical world and the universe itself. This gap gives rise to the question that is the mind-world gap only at the level of the knowledge the mind has of the external world. These types of questions act as a catalyst which raises further questions about the relationship between the mind and the body, the mind being non- extended and the body being extended, then how can there be a relationship and an interaction between a non-extended mind and an extended mind?²⁹

According to physical sciences, the mind is somewhat a physical thing and they further say that every aspect of our mental lives can be accounted for in purely physical terms, in terms of the electrochemical processes in the brain and central nervous system. The journey of resolving this tension of what mind seems to be and what science says about it – constitutes the famous mind-body problem or the problem of the relationship and interaction between the mind and the body in the field of philosophy of mind. According to Rene Descartes, the body in its intrinsic nature is like any other material object which is essentially an extended thing (also known as *res extensa*): which is to say that it is extended in space and defined by properties such as length, breadth and height. The mind by contrast is an essentially thinking thing or *res cogitans*, devoid of shape, mass, location in space, or any other physical property.³⁰ Further, Descartes believed the only thing that I can be aware of are the contents of my own mind? How can I know and have knowledge about the tables and chairs and objects in the objective world? Can I really be sure that what I am seeing in the outer world is just how it appears to be and not how objective it is?³¹ According to John Rogers Searle, the simple solution to the mind-body problem is as follows: “All our mental phenomena are caused by lower-level neuronal processes in the brain and are themselves realized in the brain as higher-level features. The behaviour of lower-level elements, presumably neurons and synapses, causes the higher-level features such as consciousness and intentionality, in the same way as higher-level features of solidity are causally explained by lower-level features such as molecules. This type of view of explaining the mental phenomena as biological character, and as ordinary parts of nature is called as ‘biological naturalism.’”³² According to Searle, Consciousness is a biological process at its most fundamental level. Consciousness is a biological process like digestion, photosynthesis and secretion of bile. Our conscious lives are shaped by our culture, but culture is itself part of our underlying biological processes.³³ Consciousness is causally reducible to brain processes, because all features of consciousness can be explained for by the neuronal processes going on in the brain, but Consciousness doesn’t have any underlying causal powers of its own in addition to the neuronal processes in the brain.³⁴ In case of Consciousness, causal reducibility doesn’t lead to ontological reducibility. If Consciousness is nothing over and above the neuron findings in the brain, doesn’t show that consciousness is just the neuronal processes in the brain. Consciousness cannot undergo an ontological reduction based on the causal reduction because Consciousness has a first-person ontology, that is: it exists as something that is

²⁸ McClelland, *What is Philosophy of Mind?*, 12-13.

²⁹ John R. Searle, *Mind: A Brief Introduction* (New York: Oxford University Press, 2004), 17-21.

³⁰ Feser, *Philosophy of Mind: A Beginner's Guide*, 24.

³¹ Feser, *Philosophy of Mind: A Beginner's Guide*, 26-28.

³² John R. Searle, “Why I Am Not a Property Dualist,” *Journal of Consciousness Studies* 9, no. 12 (2002): 1.

³³ Searle, “Why I Am Not a Property Dualist,” 4.

³⁴ Searle, “Why I Am Not a Property Dualist,” 4.

experienced by a human or an animal and cannot be reduced to something that a third-person ontology, such that something that cannot exist independently of experience.³⁵ There is a difference between the position of the property dualists and the position of Biological Naturalism held by Searle. According to the property dualists, Consciousness is a mental and therefore not a physical feature of the brain and on the other hand, Consciousness is a mental process and therefore biological and therefore a physical feature of the brain.³⁶ According to Searle, the phenomenal characteristics of Consciousness can be explained by the neurobiological processes in the brain because he argues that we have not found any system that can realize conscious states except brain states, but Searle also doesn't entirely reject the possibility that someday conscious artifacts can be created, in which case the subjective states of consciousness will be physical features of those artifacts.³⁷

Consciousness \neq Neuron Firings

\therefore If Consciousness undergoes on causal reduction \Rightarrow

Consciousness undergoes an ontological reduction

\therefore Consciousness = First Person Ontology (Something that exists based on the experience of humans and animals)
& Consciousness \neq Third Person Ontology (Something that exists independently of experience)

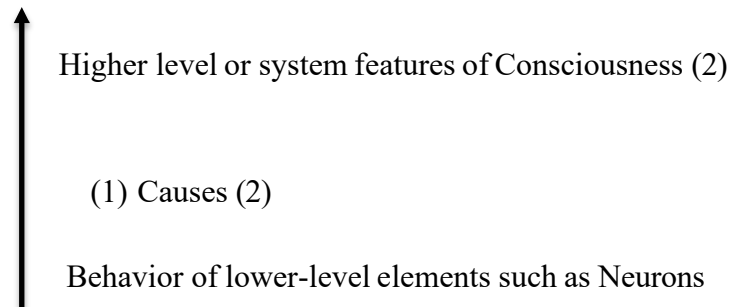


Figure 1.5: (Causal Relation in Biological Naturalism)

The mind-body theories are divided into two broad categories: monistic theories and dualistic theories. Physical monism states that everything can be described in terms of physical principles, everything can be reduced to the mechanical principles offered by science. Mental monism on the other hand claims that everything can be described in terms of mental concepts and be explained through prescientific psychological concepts. The conception of neutral monism claims that everything can be described in terms of a conceptual framework which is neither mental nor non-mental. Unlike monistic theories of the mind and body that aim to explain or give a complete picture of mind-body relationship or the mind-body theory, a single conceptual framework of describing everything as completely physical or a completely mental activity is both flawed in their approaches. According to the dualistic theory, to have a complete description and explanations of mind and body and eventually of everything requires that we consider both the physical and mental framework. According to this: there are fundamentally two distinct kinds of properties individuals have: the mental properties and the physical properties. The problems of mind-body

³⁵ Searle, "Why I Am Not a Property Dualist," 4.

³⁶ Searle, "Why I Am Not a Property Dualist," 5.

³⁷ Searle, "Why I Am Not a Property Dualist," 5

relationship are mainly of two types, and they have two features: the distinction between physical phenomena and mental phenomena and all the claims that make it difficult to portray how the mind and the body are related to each other. The problem of other minds makes it difficult for us to understand what the other individual is thinking and feeling, just by looking at their behavioral manifestations and activity. The problem of psychophysical emergence claims that how it is possible for the mental states to exist as if all the world is entirely physical and finally the problem of mental causation arises in the mind-body relationship according to which how mental (mind) and body (physical) phenomena can interact in the ways they appear to, the body being extended and the mind being non-extended.³⁸ Herbert Feigl defined the mind-body problem as a system of intricate puzzles, some of which are semantical, some of which are metaphysical, some epistemological and some are pragmatical in nature. For some philosophers, the mind-body problem is a causal problem – that explains how the mind which is non-physical and non-extended can interact with a body which is physical and extended and further a problem can be raised about the explanatory gap according to which what kind of explanation can be given of mental phenomena which is consistent with the explanations given by contemporary sciences. There are certain causes also which can be given as reasons for the mind-body problem which are as follows: the assumption that the mind and the body are causally interacting with each other, that raises the question that how two different substances like the mind and the body which are completely opposite to each other in terms of their property can interact with each other. The view of physicalism that everything is physical is the root cause of the rise of the mind-body problem, because the theory of physicalism fails to account for the qualitative and subjective experiences/characteristics that belongs to the mind.³⁹ We think of ourselves in a conscious and rational nature whereas the scientific world tells us that we live in a meaningless world and consisting of physical particles which contains consciousness? How can a mechanical universe contain intentionalistic universe that represents the world? What is the relation between the commonsense explanation of a very people behave and the explanation that sciences offer about the world? How does the mind relate to the brain? How can we account for the relation between the different types of things that appear between the mind and the body (the mind and the body). How could this grey matter made up of some biological material manifest consciousness?⁴⁰ John R. Searle advances a theory of the mind-body problem by saying this: “Mental phenomena, all mental phenomena whether conscious or non-conscious, visual or auditory, pains, tickles and thoughts, indeed all our mental life, are caused by processes going in the brain.”⁴¹ According to Paul Thagard, a philosopher of mind and a cognitive scientist, explanatory coherence (The hypothesis that other people have minds is a better explanation of their behavior than any other explanation available) and analogical reasoning (other people’s actions are similar to me, so they must be also similar to me in having minds), these two theories of explanatory coherence and analogical is a fundamental aspect to solve questions related to the nature of the mind, specifically, the problem of other minds. Thagard defends a materialist view of the mind and rejects any aspect of the mind that may be said to have a non-physical or a soul-like nature. The mind is completely material according to Thagard’s materialistic view of the mind. According to Thagard’s explanation of coherence, inference as a process or a tool for acquiring knowledge does not require the postulation of a non-material substance

³⁸ Jaworski, William, *Philosophy of Mind: A Comprehensive Introduction*, 1-2.

³⁹ Tim Crane and Sarah Patterson, *History of the Mind-Body Problem* (London: Routledge, 2012), 1.

⁴⁰ John R. Searle, *Minds, Brains and Science* (Cambridge: Harvard University Press, 1986), 13-14.

⁴¹ Searle, *Minds, Brains and Science*, 15-16.

for giving an account of mental processes.⁴² Explanatory Coherence and Analogical Inference combine to give the best explanation to the problem of other minds, that how can we know what mental states other people in.⁴³

Most of the philosopher of mind such as Rene Descartes according to Thagard go with the notion that there is a non-physical mind which observes the physical world and the body, but there are certain philosophers of mind such as David Malet Armstrong and Paul Thagard himself who advocates for a materialist conception of mind according to which all aspects of mind can be ultimately explained in terms of the brain and the body and the world it inhabits.⁴⁴ Thagard asks the question that what is the evidence for dualism and materialism and which metaphysical theory is more coherent and reliable? Now science has progressed so much that scientists, psychologists and cognitive scientists have started to agree with the materialist's conception of mind. Scientists can measure the neurological activities that happen in the brain by using techniques such as fmRI (Functional Resonance Magnetic Imagery) and they are also able to observe and get detailed information about what the mind is doing during diverse mental operations, including visual perception, word recognition and memory. Much about the operation of neural networks in the brain has also been observed by scientists. Such progress supports the claim that the mind can be understood based on the principles of psychology, physics, chemistry, biology and so on to explain the material world, the body and the mind both.⁴⁵ Researchers have improved their ability to explain how neural networks in the brain help with information processing using interactions among neurons. Thanks to this progress, it is clear that mind can be understood using explanations from psychology, physics, chemistry and biology. Looking at what happens in the brain chemically and physically allows experts to see that both mental activity and brain activity are material processes.

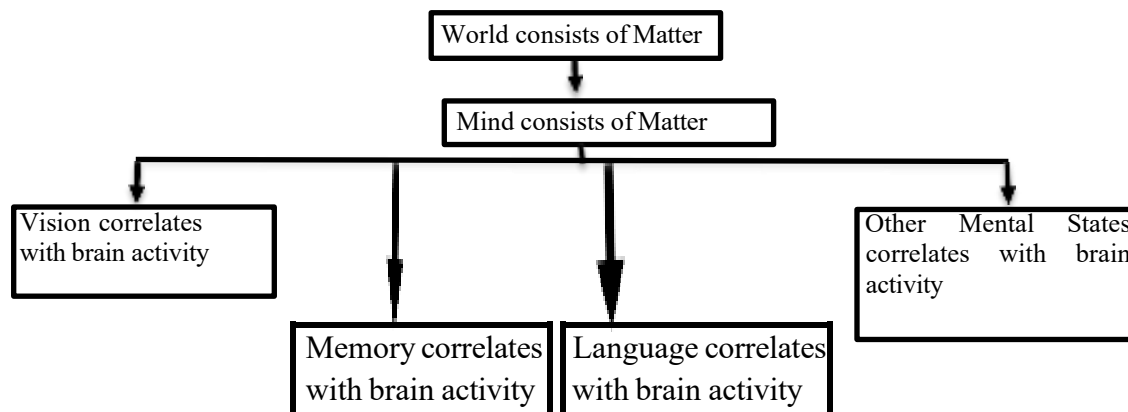


Figure 1.6: (The Explanatory Coherence of the theory of Materialism.)⁴⁶

⁴² Paul Thagard, *Coherence in Thought and Action* (Cambridge: MIT Press, 2002), 102-103.

⁴³ Thagard, *Coherence in Thought and Action*, 103.

⁴⁴ Thagard, *Coherence in Thought and Action*, 111.

⁴⁵ Thagard, *Coherence in Thought and Action*, 112.

⁴⁶ Thagard, *Coherence in Thought and Action*, 115.

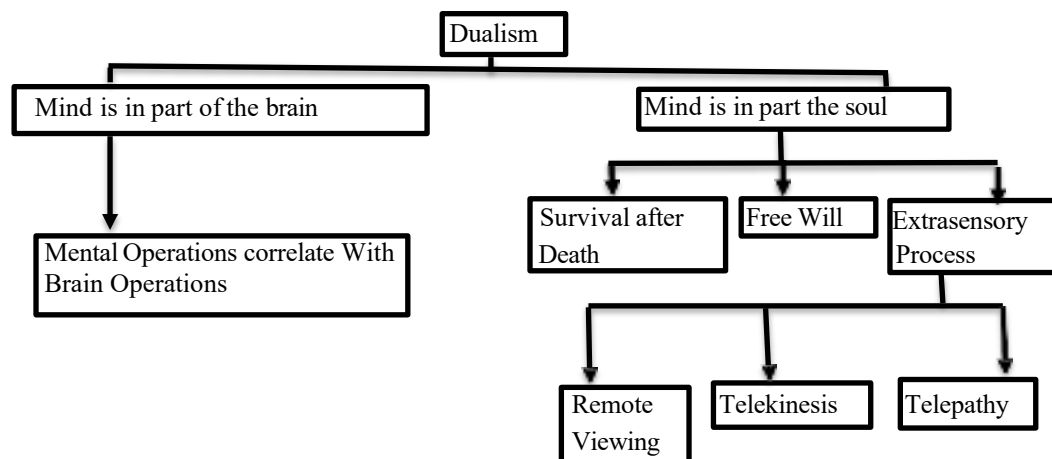


Figure 1.7: (The Explanatory Coherence for the Theory of Dualism.)⁴⁷

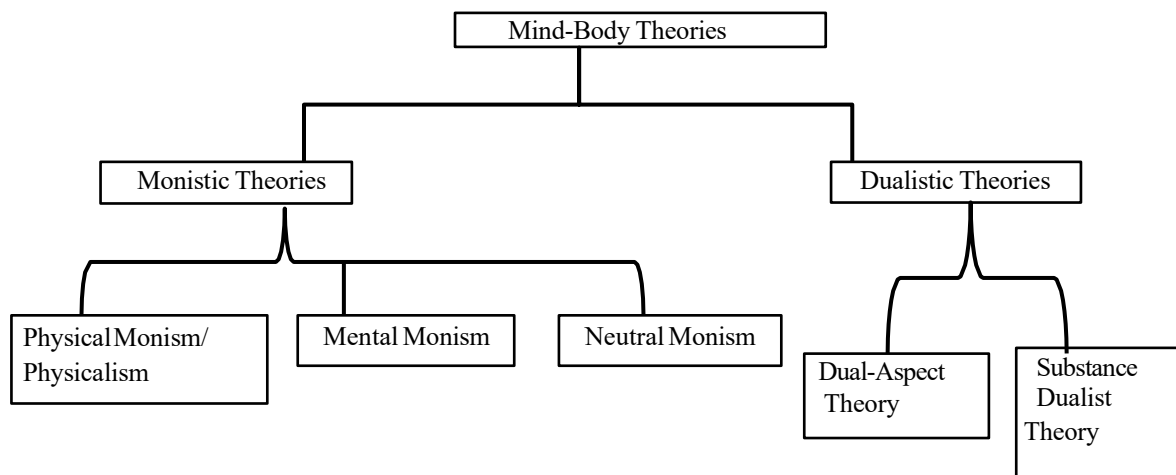


Figure 1.8: (A Diagrammatical Representation of Mind-Body Theories.)⁴⁸

- a) Dualism and Interactionism: According to the mechanistic philosophy and the Substance dualist theory of Rene Descartes, the mind and body are two distinct substances, and the workings of the natural world can be likened to the workings of the mind can be explained by the working of the constituent parts that make up the mind.⁴⁹ According to Descartes' conceivability argument, we can very well conceive the existence of a mind which can exist separate from the body, we can imagine the existence of a mind without the body, additionally we can also conceive that we don't have bodies at all, but we have just got minds in which information is being placed by an evil demon.⁵⁰

⁴⁷ Thagard, *Coherence in Thought and Action*, 116.

⁴⁸ Jaworski, *Philosophy of Mind: A Comprehensive Introduction*, 3.

⁴⁹ McClelland, *What is Philosophy of Mind?*, 30-31.

⁵⁰ McClelland, *What is Philosophy of Mind?*, 30-31.

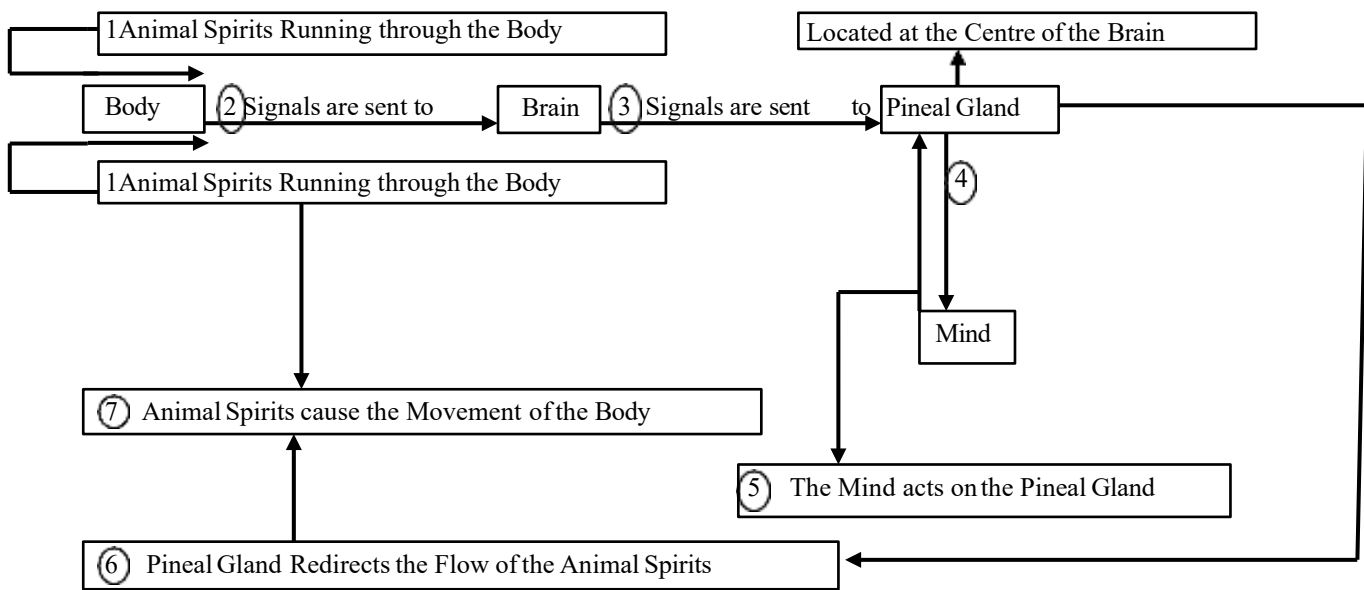


Figure 1.8: (A Diagrammatic Representation of Descartes Interactionism.)⁵¹

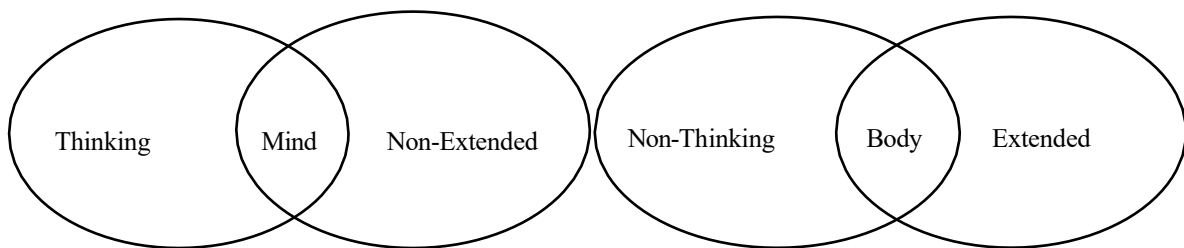


Figure 1.9: (A Venn Diagram Representation of Thinking, Extension, Mind)⁵²

According to Descartes' theory of substance dualism, the properties of a thing do not qualify as a substance. For example – thought, feeling and volition are properties of the mind and are not constituting separate substances. When Descartes is arguing that there are two types of substance, then what he is claiming is that there are two types of property-bearing substances: The Body known as “Res Extensa” and the Mind known as “Res Cogitans”. For Descartes, the category of res extensa (the body) and res cogitans (the mind) is mutually exclusive. A thinking thing cannot be extended, and a non- thinking thing cannot be non-extended.⁵³

His argument is as follows:

Premise 1: Your mind existing without your body is conceivable. Premise 2: If something is conceivable, then it is possible.

Premise 3: If it is possible for the mind to exist without the body, then dualism is true. Conclusion: Therefore, dualism is true.⁵⁴

⁵¹ McClelland, *What is Philosophy of Mind?*, 35.

⁵² McClelland, *What is Philosophy of Mind?*, 29.

⁵³ McClelland, *What is Philosophy of Mind?*, 29.

⁵⁴ McClelland, *What is Philosophy of Mind?*, 31.

Descartes argues that the signals are sent to the brain via the animal spirits which run through the body, then those signals are sent by the brain to the Pineal Gland and then Pineal Gland sends those signals to the mind. Then, the mind acts on Pineal Gland, the Pineal Gland redirects the flow of animal spirits that were running through the body at the start of the interactionist process. Lastly, the animal spirits cause the Movement of the Body. This completes one cycle of interaction between the *res extensa* (body) and the *res cogitans* (mind). The picture that Descartes poses about there being animal spirits is contradicted by the findings of modern science. The problem with the theory of substance dualism is to give proper accounts for how an unextended mind can interact with an extended body.⁵⁵ Leibnitz tried to present a solution to the interactionist position of Rene Descartes and the problems in it by formulating a theory of mind-body interaction in which the mental and physical events run parallel to each other without any causal influence. According to Leibnitz, the sequence of the mental and the physical events was set up by God who ensured that the two sequences would run in harmony despite never interacting with each other. This harmony is called pre-established harmony in the Philosophical position of Leibnitz.⁵⁶ There is also another problem which arises in connection with the problem of interaction between the mind and the body and that is the problem of other minds according to which there seems to be a gap between the knowledge I have of my own minds and the minds of others. John Stuart Mill writes: “John Stuart Mill writes: I conclude that other human beings have feelings like me, because, first, they have bodies like me, which I know, in my own case, to be the antecedent condition of feelings; and because, secondly, they exhibit the acts, and other outward signs, which in my own case I know by experience to be caused by feelings. In the case of other human beings, I have the evidence of my senses for the first and last links of the series, but not for the intermediate link. I find, however, that the sequence between the first and last is as regular and constant in those other cases as it is in mine. In my own case I know that the first link produces the last through the intermediate link, and could not produce it without. Experience, therefore, obliges me to conclude that there must be an intermediate link; which must either be the same in others as in myself, or a different one: I must either believe them to be alive, or to be automatons: and by believing them to be alive, that is, by supposing the link to be of the same nature as in the case of which I have experience, and which is in all other respects similar, I bring other human beings, as phenomena, under the same generalizations which I know by experience to be the true theory of my own existence.”⁵⁷

⁵⁵ McClelland, *What is Philosophy of Mind?*, 35.

⁵⁶ McClelland, *What is Philosophy of Mind?*, 49.

⁵⁷ D. Cockburn, *An Introduction to the Philosophy of Mind: Souls, Science and Human Beings* (Basingstoke: Springer, 2001), 27.

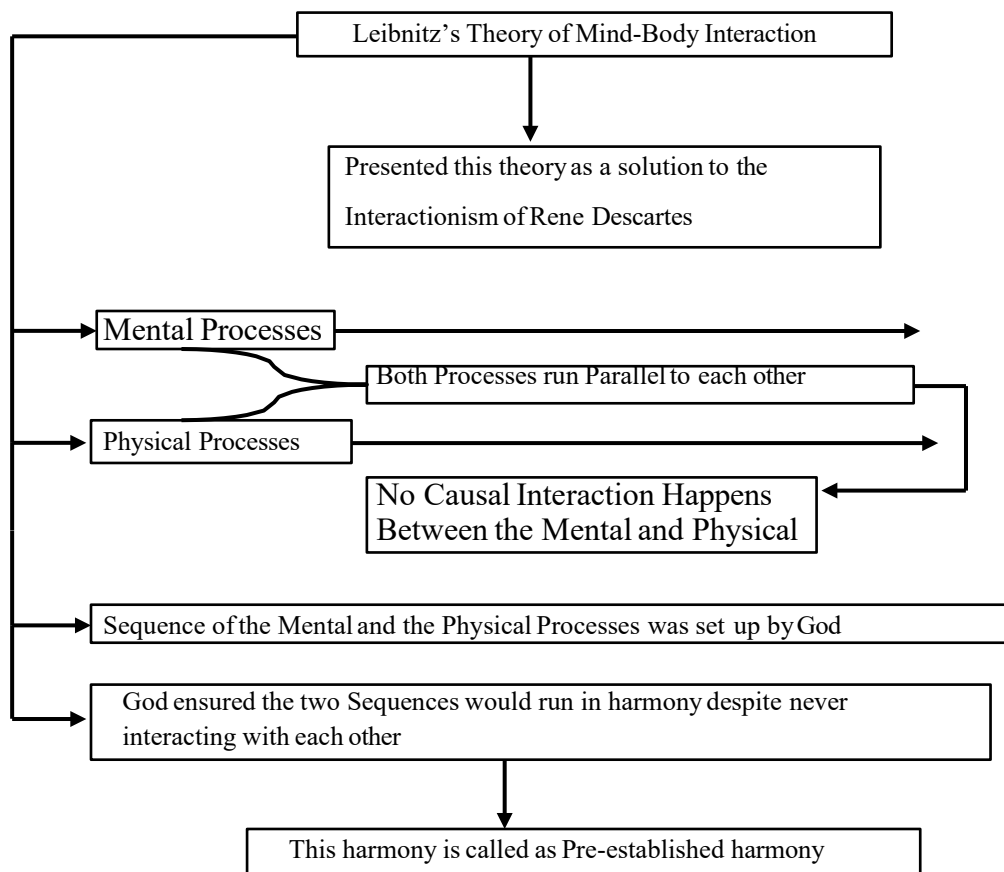


Figure 2.1: (A Diagrammatical Representation of Mind-Body Interaction in The Philosophy of Leibniz.)⁵⁸

1.2 Mind-Machine Relationship

Theories of mind tend to mirror the technologies that were operating at times. When Descartes, Leibniz, Hume and Hobbes tried to formulate theories of mind, they took inspiration from technologies at their time such as cogs, wheels and levers, in the early 20th century, philosophers of mind took inspiration from the telephone switchboard to develop and formulate their theories. In the middle of the 20th century, we see the birth of programmable computers and with it we see a rise in the growth of Artificial Intelligence (AI). In 1950, Alan Turing, a computer scientist tried to formulate two questions in his article “Computing Machinery and Intelligence”, - The first question was that can machines think? and the second question was can humans be compared to thinking machines or more radically can it be said that the human is a thinking machine? Any feature of learning or intelligence process might be so described that a machine may be able to simulate it.⁵⁹ According to John Rogers Searle view, the computer is not merely a tool to study the mind, but an appropriately programmed computer really is a mind because the computer that performs programmable operations can be very well said to possess understanding of these operations and cognitive states related to the operations and the relation between other mental and cognitive states.⁶⁰ First major paradigm for cognitive science was that cognition is what computers do, that is rule-governed

⁵⁸ McClelland, *What is Philosophy of Mind?*, 49.

⁵⁹ J. Walmsley, *Mind and Machine* (Basingstoke: Springer, 2016), 16.

⁶⁰ Walmsley, *Mind and Machine*, 20.

symbol manipulation.⁶¹ The cognitive revolution started with the rise of behaviourism (a theory of mind according to which mental states are dispositions to behave in certain ways, but the limitation of this theory of behaviourism was that it failed to account for the inner mentalistic abilities that happen in the mind like thoughts, beliefs, desires, emotions and willing.⁶² Since such inner mental states are not observable, behaviourists looked at these mental processes as somewhat a ghostly natured thing – like Gilbert Ryle mentioned in his book “The Concept of Mind” published in the year 1949. He gave a theory of logical behaviourism according to which “mental states are just dispositions to behave in certain ways”, but the new revolution that was brought forth by cognitive sciences claimed that there can be a demonstrative study of inner mental states, there can be a scientifically respectable way of studying inner cognitive states or processes of the mind like thoughts, emotions, feelings and willing, which was a new revolution in the field of the philosophy of mind and cognitive science according to which cognition is a kind of computation (computation being a manipulation of symbols that we receive from the environment in a rule-governed way).⁶³ George Boole in his Seminal Work published in 1854 titled “An Investigation of the Laws of Thought on Which are Founded the Mathematical Theories of Logic and Probabilities (now commonly shortened to The Laws of Thought). In the first paragraph of this book, Boole tried to formulate the idea that psychology and mathematical logic are two sides of the same coin. Boole says: “The design of the following treatise is to investigate the fundamental laws of those operations of the mind by which reasoning is performed; to give expression to them in the symbolical language of a Calculus, and upon this foundation to establish the science of Logic and Constructive Method; to make that method itself the basis of a general method for the application of the mathematical doctrine of Probabilities; and finally, to collect from the various elements of truth brought to view in the course of these inquiries some probable intimations concerning the nature and the constitution of the human mind.”⁶⁴ The 20th century view of computer science which takes the insights of Boole that thinking is a kind of logico- mathematical insightful operation to a higher level of arguing for the view that “thinking is just logical reasoning, and computers are machines for logical reasoning, so thinking can be understood – even simulated or reproduced as mechanical computation.⁶⁵ Thought is logic, logic can be done by machines, therefore thought can be done by machines.⁶⁶

1.4 Functionalism and Mind

According to the theory of functionalism in the realm of Philosophy of Mind, functionalism is that theory according to which what makes something a mind, or a mental state, is not the stuff and the material it is made from, but rather the function it performs in a given system. A mind is not classified and defined by what it is made up of, but rather by what functional role it plays in the system and the environment. A significant progress in philosophy of mind came with a theory that is connected in an interdisciplinary way in a psychology and linguistic way called functionalism. In its simplest form, functionalism can be defined by their causal role with respect to the perceptual input, behavioural output and other functionally

⁶¹ Walmsley, *Mind and Machine*, 30.

⁶² Walmsley, *Mind and Machine*, 30-31.

⁶³ Walmsley, *Mind and Machine*, 31.

⁶⁴ George Boole, *An Investigation of the Laws of Thought: On which are Founded the Mathematical Theories of Logic and Probabilities* (1854), 1.

⁶⁵ Walmsley, *Mind and Machine*, 32.

⁶⁶ Walmsley, *Mind and Machine*, 37.

defined mental states.⁶⁷ What makes something a mind, a mental state such as a thought, a belief or a desire is defined by what it does, rather than by what they are made up of.⁶⁸ For example: What makes something a clock is not what makes something a clock is not what the material and the substance that the clock is made up of, but rather by their function of what the clock does. What makes something a clock is its functional terms; what makes something a clock is not what the clock is made up of by their function. According to functionalism, the mental states or the be studies at two levels – the level of the brain (hardware) which consists of soggy grey matter on which the software of the mind (the thoughts, feelings, emotions and willing) them. If we take up the mind as a biological computer, then it will open a new dimension of talking about the relationship between the mind and the brain.⁶⁹ A computer is an information processing system in which different states and processes perform different functions. A computer state is a memory in virtue of the role it plays in each situation, that is of storing memory information in it, that is what it a mental state of the memory. It doesn't matter whether the role is played by a silicon chip or by a configuration of cogs and wheels for as long as the right functional role is provided by a system it will be called as playing that functional role. In the same way analogy of a computer being an information processor can be applied in the examination of the mental states as well. Functionalists propose that the mental states are defined by what functional role it plays in the mind. To specify what pain is we must specify what pain does.

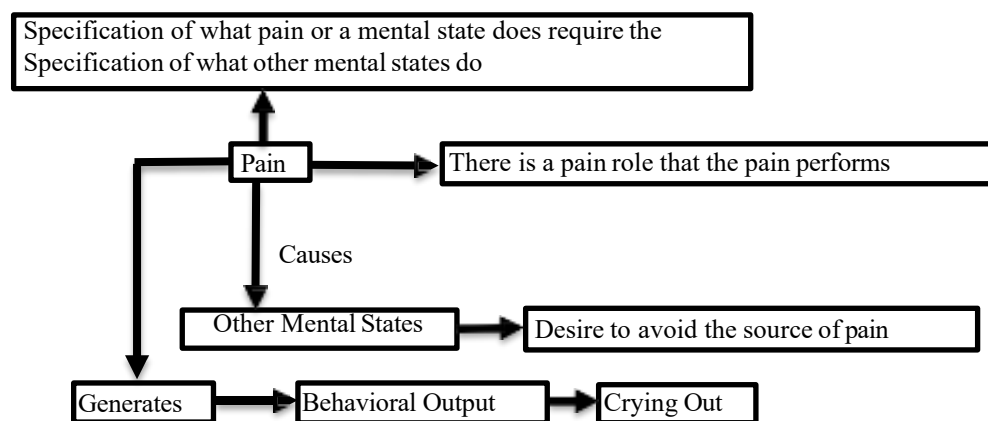


Figure 2.4: (A Flow chart depicting the functional analysis of pain)

The theory of functionalism seems to provide a solution to the problem of other minds by arguing that if according to functionalism to be in a particular sort of mental state is to exhibit certain causes and effects, then though I might not be able to see your mental states, but just by seeing the causes and effects of these mental states, I can know what is the mental state of the other individual. How can someone know that a computer has just run an antivirus Scan? To know about whether the computer performed the antivirus scan, I cannot look at the microscopic processes that are occurring in the silicon chips. I know to get to the conclusion that the computer has run an anti-virus scan successfully is by looking at causes and the effects of the anti-virus scan, that is – by the computer “inputs” clicking on the button ‘Scan’ on the interface of the antivirus program, and the computer ‘outputs’. In the same way, we don’t know the

⁶⁷ Walmsley, *Mind and Machine*, 37-38.

⁶⁸ Walmsley, *Mind and Machine*, 34.

⁶⁹ McClelland, *What is Philosophy of Mind?*, 76.

substance out of which the mind is made up of, we only need to look at the sensory input and behavioral outputs and the relation to other mental states. For example, let's consider Mindy, who is a football player, if she has the intention of kicking the ball, we can see that she is in a mental state or a kind of situation which causes as intentions-to-kick the football and we see that she kicked the ball and we know such intentions to kick the ball is caused by an intention to kick. If we know the functional roles distinctive of kicking a football, and we also know the relevant inputs and outputs of Mindy's mind, then we can go to the conclusion that she had an intention to kick.⁷⁰ Functionalism carves a middle ground or a middle way between substance dualism and the behaviourism by finding a perfect balance as to knowing the problem of other minds. Substance dualism undermines our capacity to know the mental states, behaviourism overdetermines our epistemic capacity to know the mental states of others whereas functionalism offers an account of the knowledge we have of other people minds by explaining in what way we can have knowledge of the mental states of others whilst making sure of the doubts we might have with regards to what's going in the mind of other people.⁷¹ Functionalism has to solve the issue of how we know other people's thoughts. Within functionalism, the main idea is to understand other minds by examining how mental states are involved in input from senses, actions and other mental processes. For an example, try a virus scan on your computer; while you cannot see the processes running inside the chips, the final output (cleared report) tells you it was successful. Mindy's desire to kick the ball in football is indicated by her action and the fact she wants to score a goal. Our analysis of what happened in and near Mindy's body makes it clear that she meant to kick, so we don't have to know what her mind is like inside to say this. By doing this, functionalism is seen as a middle option between substance dualism and behaviorism. According to substance dualism, there is no physical connection between mind and body, so it becomes harder to understand someone else's state of mind and this gives rise to skepticism. On the other hand, behaviorism limits our understanding of mental states, by characterizing them only as habits of behavior and ignoring things that cannot be seen. By saying mental states exist and matter, but can only be grasped when we see what they do, functionalism offers a middle ground view. It lets us guess someone's mental state such as Mindy's plan, by watching specific behaviors, without concluding everything for sure.

1.3 Computational Functionalism and Mind

In the 1960's, Hilary Putnam proposed a new version of functionalism called computational functionalism. Putnam is called the father of computational functionalism and he also argued for the internalistic explanation of computation and notion of mind in his earlier papers titled "Minds and Machines" and "The Nature of Mental States", further he also talked about the externalistic notion of computation, mind and meaning in his later article "The Meaning of Meaning" where he argued that "the meanings of the words arrent in the head", the view through which he gave his view on semantic externalism.⁷² The theory of computational functionalism performed better as a theory of mind than the other two theories called as the view of logical behaviorism (mental states are dispositions to behave in particular ways) and reductive materialism (mental states are identical to the brain states). Computational Functionalism has been considered to be a better theory compared to the theory of logical behaviorism and reductive materialism has two reasons – Firstly, the arguments of functionalism for the mind in the realm of computational functionalism was sounder and more coherent compared to the versions of the other two theories and

⁷⁰ McClelland, *What is Philosophy of Mind?*, 91-92.

⁷¹ McClelland, *What is Philosophy of Mind?*, 93.

⁷² Andrew Bailey, *Philosophy of Mind: The Key Thinkers* (London: A&C Black, 2013), 148.

secondly, the theory of computational functionalism was well aligned with the new science of the mind, known as cognitive science.⁷³

According to Putnam's Computational Functionalism, minds are multiply realizable which means that the minds can be manifested in any sort of physical system if it does the right sort of functional organization. The claim of the multiple realizability thesis is that the minds or any type of mental states can be realized in different ways in the brains (bodies) of other biological bodies and even non-biological species. Different instances of the same mental state/different occurrences of the same mental state might be instantiated in different sorts of physical-chemical states, some of which are made of non-biological silicon hardware.⁷⁴ In his earlier papers such as the "Minds and Machines" and "The Nature of Mental States", Putnam drew an analogy between minds and machines to show that the 'the various issues and puzzles that make up the traditional mind-body problem are wholly linguistic and logical in character. All issues arise in connection with any computing system capable of answering questions about its own structure. Later in 1967, Putnam in his article "The Nature of Mental States", made an additional move of identifying mental states with the functional states, suggesting that "to know for certain that a human being has a particular belief, or preference, or whatever, involves knowing something about the functional organization of the brain."⁷⁵ In the nature of mental states, Putnam proposes the hypothesis that pain, or the state of being in pain is a functional state of the whole organism.⁷⁶ The theory of computational functionalism is committed to the view that the mental states are computational states and these computational states are propositional, symbolic or even digital, which is also known as the computational theory of mind (CTM).⁷⁷

1.4 Theories of Mind from Classical to Contemporary times

The question about what a mind is? has been asked by philosophers from ancient times. There is something which is making me read these black marks on this white page instead of the white gaps in between the black marks. What is the thing which makes me do so, is it a thing or a non-thing, is it material, immaterial, both material and immaterial or something in between material and immaterial? The thing which is recognizing the black marks on this paper which I am reading and filtering out the white gaps in between is the mind. The mind is scanning information and is filtering out the information that is not needed. Various theories have been proposed by different philosophers to describe the mind such theories are as follows: Substance Dualism, Property Dualism, Physicalism, Materialism, three types of Physicalist theories are – Mind-Brain Identity Theory, Behaviorism, Functionalism and Computational Functionalism.⁷⁸ There are also some theories which try to describe the relationship that exists between the mind and the body such as – Interactionism, Parallelism and Epiphenomenalism. All these theories of mind try to describe as to what the nature of the mind is and what does it constitutes. No theory of mind can be said to be a complete theory of mind with no loopholes. The Substance Dualist theory which holds that the mind and the body are fundamentally two distinct substances suffers from the problem of description of how a non-material mind can interact with a material body, the mind-brain identity theory which states that the mind is identical to brain states that happen in the skull of a human being suffers from the problem of accounting for the same mental states that happen in a brain made of other materials other

⁷³ Andrew Bailey, *Philosophy of Mind: The Key Thinkers* (London: A&C Black, 2013), 148.

⁷⁴ Andrew Bailey, *Philosophy of Mind: The Key Thinkers* (London: A&C Black, 2013), 150.

⁷⁵ Andrew Bailey, *Philosophy of Mind: The Key Thinkers* (London: A&C Black, 2013), 150.

⁷⁶ Andrew Bailey, *Philosophy of Mind: The Key Thinkers* (London: A&C Black, 2013), 153.

⁷⁷ Andrew Bailey, *Philosophy of Mind: The Key Thinkers* (London: A&C Black, 2013), 153.

⁷⁸ Cunningham, *What is a Mind?: An Integrative Introduction to the Philosophy of Mind, 1.*

than human beings. The theory of behaviourism suffers from accounting for the explanation of describing the actual inner mental states of the other person which is known as the problem of other minds, the theory of functionalism, which argues that the mental states are defined by the functional roles that the mental states play in a system suffers from the problem of accounting for the qualia (the inner subjective experiences) that an individual might face.⁷⁹

1.5 Classical Theories of Mind: Ancient, Medieval and Modern

Substance Dualism

According to the theory of Substance Dualism, the mind and the body are distinct entities, the body is physical, material and located in space and time and it follows the laws of science, i.e. of physics, whereas the mind is non-physical, non-material and not confined to a particular space and time and it doesn't follow the laws of the physical universe. The view of substance dualism is quite old, it dates back to the 4th century B.C when Plato talked about non-material soul and a physical body and he tried to defend his view of the non-material soul through the argument of recollection which states that the soul/mind has been born many times and so it must have the knowledge of many lifetimes and the non-material soul/mind is immortal according to Plato.⁸⁰ A more recent version of the theory of substance dualism came with the views of the Father of Modern Philosophy, Father of Philosophy of Mind, a mathematician, a philosopher who was known by the name Rene Descartes. In the 17th century Rene Descartes propounded the view of substance dualism according to which the mind is non-physical thing, it is non-spatial and therefore it has none of the properties we associate with physical things, such as color, weight, mass and size. Descartes called this mind the soul and called it a substance. When Descartes called the mind a substance, he argued for the position that the mind is an independent substance or a thing that doesn't need the existence of any other thing to sustain itself and for its existence. In his book "Meditations on First Philosophy", one of the primary aims of Descartes was to prove that the mind can exist without the body, for its existence, the mind according to Descartes can survive the death of the body. So, for Descartes, the mind and the body are two distinct substances – the mind being non-physical and immortal and the body being physical and mortal.⁸¹ There can be three or rather four types of arguments that can be formed in favor of the Theory of Substance Dualism – one being the theory of Free Will, one being the theory of immortality of the soul, the one being the argument for the difference in the ways we know a body and a mind and the last being the conceivability argument.⁸² There can be certain arguments which can be given against the theory of Substance Dualism which are as follows: Firstly, no plausible explanation can be given for accounting that how can a non-physical mind could cause things to happen in a physical body or how a physical body can bring changes in a non-physical mind. The non-physical mind is not spatial whereas the physical body is spatial, so how can something which is spatial influence an object which is non-spatial. Descartes attempted to explain the interaction between the mind and the body through the animal spirits running through the body which in turn would provide information to the brain about sensory stimuli. Then animal spirits carry information from the mind to the pineal gland, then to various parts of the body including the muscles causing movements in the body. But even this explanation explaining the interaction between the non-physical mind and the physical body fails to account for how the gap between the physical and the

⁷⁹ Cunningham, *What is a Mind?: An Integrative Introduction to the Philosophy of Mind*, 2.

⁸⁰ Cunningham, *What is a Mind?: An Integrative Introduction to the Philosophy of Mind*, 2.

⁸¹ Cunningham, *What is a Mind?: An Integrative Introduction to the Philosophy of Mind*, 2-3.

⁸² Cunningham, *What is a Mind?: An Integrative Introduction to the Philosophy of Mind*, 3-4.

non-physical body is bridged.⁸³ Another difficulty for the theory of substance dualism comes from evolutionary considerations. If humans are a product of a long evolutionary history, then if evolutionary processes are natural processes working on physical entities, then it becomes puzzling as to how a non-physical mind could come into being. Another failure of the theory of Substance Dualism is that it fails to account for the mind-body problem.⁸⁴

Property Dualism

Property Dualism in contrast to the viewpoint of substance dualism that the mind is a non-physical substance, whereas the body is a physical substance, in contrast to the view of substance dualism, the theory of property dualism holds that the human beings are physical entities having two sets of properties called the mental property of the mind and the physical property of the body.⁸⁵ There are certain arguments for and strengths of the theory of property dualism which are as follows: It can account for the very different states of consciousness, beliefs and desires and also talk about the states of physicality-like shape, color, odor and size. Property Dualism avoids the postulation of a substance that has no causal history in the natural world.⁸⁶ There are certain arguments against/weaknesses of property dualism which are as follows: An inability to explain consciousness as a physical process. An inability to account for the difference in the way in which we know the mental and the physical processes.⁸⁷

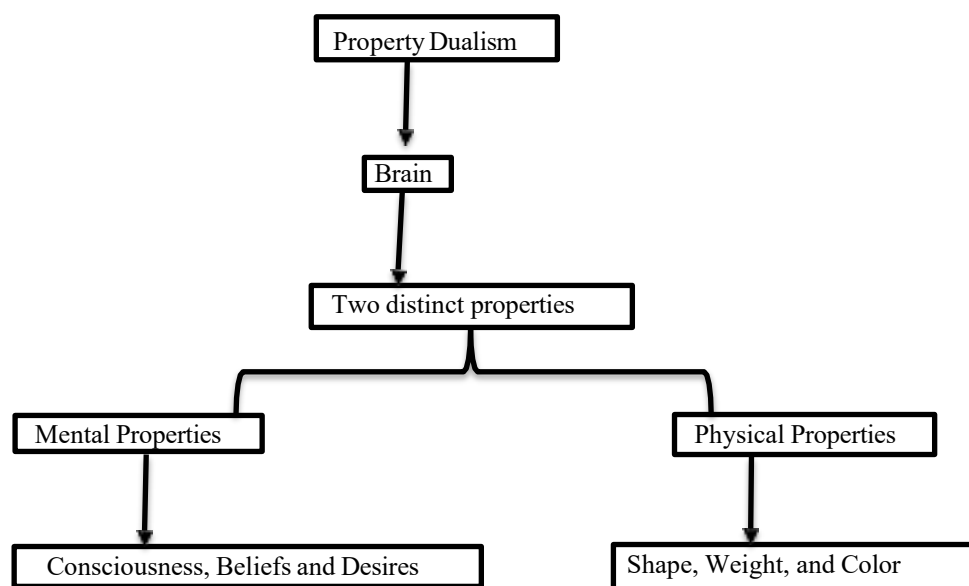


Figure 2.6: (A Flow Chart of Property Dualism)

Behaviorism

In his book “The Concept of Mind”, Gilbert Ryle challenged the theory of Substance Dualism given by Rene Descartes by giving his conception of logical behaviourism according to which mental states are not a non-physical substance but rather can be seen as dispositions to behave in certain ways. Ryle called the perspective of Descartes of considering the mind as a substance as committing a category mistake when

⁸³ Cunningham, *What is a Mind?: An Integrative Introduction to the Philosophy of Mind*, 9-10.

⁸⁴ Cunningham, *What is a Mind?: An Integrative Introduction to the Philosophy of Mind*, 9-10.

⁸⁵ Cunningham, *What is a Mind?: An Integrative Introduction to the Philosophy of Mind*, 2.

⁸⁶ Cunningham, *What is a Mind?: An Integrative Introduction to the Philosophy of Mind*, 35.

⁸⁷ Cunningham, *What is a Mind?: An Integrative Introduction to the Philosophy of Mind*, 36

Descartes claimed that the mind is a Substance, a thing, placing it in the same category as the body but giving it a puzzling set of non-physical characteristics. The view of Gilbert Ryle suggests a different conception of mind according to which the mind cannot be said to be a substance (neither physical nor non-physical), but rather “the mind” can be looked at as a collective term we use to designate patterns of behavior. But the behaviorism of Gilbert Ryle was of a different version than the other behaviorists – His behaviorism was not of a psychological sort but was rather concerned with language and not with metaphysics. Instead of arguing for the viewpoint that the mind is a sort of a substance, Ryle was of the viewpoint that the mind can be identified (the mental concepts or mental words including ‘the mind’) can be translated into descriptions of potential or actual behavior.⁸⁸ For example: To say that I am going to play badminton is identical with my disposition to pick up the badminton and shuttle and start playing it, whether I play badminton or not doesn’t matter, what matters is whether I have the disposition to behave in a particular way. In this case – having the disposition to pick up the badminton and the shuttle cock and start playing – this is an example through which I am throwing light on Ryle’s conception of behaviorism (logical behaviorism) according to which the mental states are nothing but dispositions to behave in particular ways. There are certain strengths and arguments for theory behaviorism which are as follows – If issues associated with the mind are transformed into questions about behavior, then the concern of how a non- physical mind can interact with a physical body is dissolved.⁸⁹ The epistemic asymmetry between knowing our own minds and the minds of others is dissolved if the mind really refers to the patterns of behavior, then we know minds in the same way we know about bodies, by publicly observable data.⁹⁰ Further, one can easily study the mind, or the mental states through the methods of the natural sciences – observation and experimentation. One no longer needs to postulate the existence of a private, mysterious and non-physical mind to talk about and observe the mental processes.⁹¹ In linking mental states to behavioral states, there was no problem in linking anything non-physical to the physical body.⁹² One fundamental strength of behaviorism as a theory of mind is one can predict and control behavior of people by observing external stimuli. The mind or the mental state can be understood within the individual’s environment. There are certain arguments against/weaknesses of the theory of behaviorism which are as follows: The translation of one mental concept, desire’, into a behavioral pattern requires a tacit commitment to other mental concept, that is belief. Further, no reference to an internal state of an organism is made in the theory of behaviorism while describing the nature of mind or the mental states. Philosophers of mind such as Ned Block and Jerry Fodor have made arguments against behaviorism: “The fundamental argument against behaviorism is that what an organism does or is disposed to do at any given time is a very complicated function of its beliefs and desires together with its current sensory inputs and memories.”⁹³ A behavioral account of mental states ignores the qualitative feel or a quale that what does it feel to experience something. It is possible to deceive and conceal one’s mental states.⁹⁴

Physicalism as a theory of mind believes in the theory that the mind is located within the natural world and

⁸⁸ Cunningham, *What is a Mind? An Integrative Introduction to the Philosophy of Mind*, 36.

⁸⁹ Cunningham, *What is a Mind?: An Integrative Introduction to the Philosophy of Mind*, 15

⁹⁰ Cunningham, *What is a Mind?: An Integrative Introduction to the Philosophy of Mind*, 15.

⁹¹ Cunningham, *What is a Mind?: An Integrative Introduction to the Philosophy of Mind*, 18.

⁹² Cunningham, *What is a Mind?: An Integrative Introduction to the Philosophy of Mind*, 19.

⁹³ Cunningham, *What is a Mind?: An Integrative Introduction to the Philosophy of Mind*, 19.

⁹⁴ Cunningham, *What is a Mind?: An Integrative Introduction to the Philosophy of Mind*, 20.

it is governed by the laws of physics.⁹⁵ The early versions of physicalism were called materialism. According to this view the mind is a material thing, most commonly the brain. For example, Thomas Hobbes talked about the mind as a matter in motion. There are certain arguments for and strengths of physicalism which are as follows: Damage to the brain clearly effects mental function. A physicalist account of the mind could explain why things like drugs and alcohol could affect someone's moods, one ability to think clearly and one's ability to remember things.⁹⁶ The theory of physicalism can also explain how a non-physical mind can interact with a physical body by accounting for an organism's mental states in terms of its brain states. The theory of Physicalism in the field of Philosophy of Mind has taken different forms, early versions were of the opinion that everything can be explained in terms of the motions of the bits of matter. All forms of Physicalism are of the opinion that everything in this world of ours is material/physical, but they differ in precise accounts they give of these physical states. There are different types of Physicalism – Type Physicalism, Token Physicalism, Reductive Physicalism, Non-Reductive Physicalism and Eliminative Materialism. A full blows version of the theory of Physicalism was the Central-State Identity Theory which was given by philosophers such as JJC Smart, Herbert Feigl and U.T. Place who argued that the mental states are identical to the states of the brain and some states such as sensations and consciousness are internal to the state of the organism and could not be explained in terms of behavior.⁹⁷

There are certain arguments against and weaknesses of the theory of Physicalism which are as follows: It avoids the serious problem faced by the dualists of how a non-physical mind can interact with a physical body. The theory of Physicalism places the mind within the scope of science, making it a sort of phenomenon that can be investigated and treated in the same way as the natural phenomena are observed.⁹⁸ The theory of Physicalism lacks in the knowledge and fails to bridge or fill the gap between the knowledge we have of minds and bodies. Secondly, if mental states are physical as is argued by the physicalists, then how is it that we are able to know the private mental states of ours in an introspective way while rest of the physical world is not able to observe the inner mental states.⁹⁹ Physicalism fails to explain that how a physical brain can produce consciousness.

⁹⁵ Cunningham, *What is a Mind?: An Integrative Introduction to the Philosophy of Mind*, 21.

⁹⁶ Cunningham, *What is a Mind?: An Integrative Introduction to the Philosophy of Mind*, 22.

⁹⁷ Cunningham, *What is a Mind?: An Integrative Introduction to the Philosophy of Mind*, 23.

⁹⁸ Cunningham, *What is a Mind?: An Integrative Introduction to the Philosophy of Mind*, 29-30.

⁹⁹ Cunningham, *What is a Mind?: An Integrative Introduction to the Philosophy of Mind*, 30.

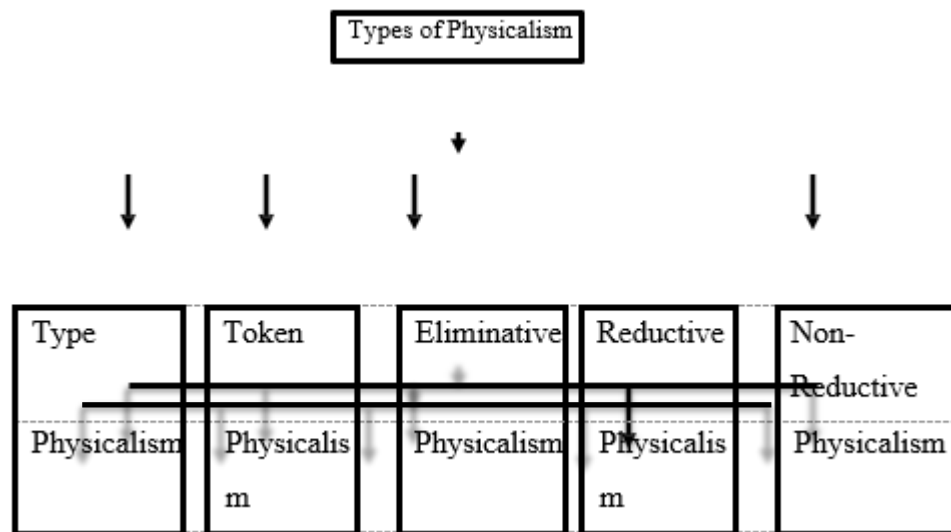


Figure 2.7: (Different Versions of Physicalism)

Functionalism

According to the Theory of Functionalism as a theory of mind, it doesn't matter what does a system has to do to be sure that it has a mental state or a type of intelligent activity? According to the functionalist definition of a mental state, the system has to be taken in the information in the system, process that information in the form of symbol/information manipulation and then produce a response based on that information. All these relations between input, internal processing and output were taken to be part of the causal relations. During the formulation of theory of functionalism, the definition or to tell what a mental state does has shifted from what the system is made up of, but what is the functional role that the system plays.¹⁰⁰ In Philosophy of Mind, according to the theory of functionalism, the main focus is shifted from the compositional definitions accounts of mental states towards the functional accounts of the mental states. On this view, minds and mental states may be made of very different sort of materials, but what does matter is whether that material is able to conduct the right functional role.¹⁰¹ Functionalism takes into account both the aspects of the Identity Theory (that something goes on within a system that possess a mental state) and also accounts for the process of Behaviorism according to which the functionalist's theory also argues for the position that the environmental stimuli (input) and proper output or response (behavioral output). The early proponents of functionalism include philosophers such as David Armstrong (who called his functionalist theory Causal Theory of Mind), David Lewis, Hilary Putnam and Jerry Fodor. If any system can perform the right sort of functional computations, then it possesses a mental state or a mind.¹⁰² Jerry Fodor has defended a version of non-reductive Physicalism in his book "The Language of Thought"¹⁰³ according to which there is an autonomy of psychology in the theory of functionalism because the theory claims that the psychological theories and theories about the mental are not reducible to the theories in the physical sciences.

¹⁰⁰ Cunningham, *What is a Mind?: An Integrative Introduction to the Philosophy of Mind*, 39.

¹⁰¹ Cunningham, *What is a Mind?: An Integrative Introduction to the Philosophy of Mind*, 40.

¹⁰² Cunningham, *What is a Mind?: An Integrative Introduction to the Philosophy of Mind*, 40.

¹⁰³ Cunningham, *What is a Mind?: An Integrative Introduction to the Philosophy of Mind*, 42-43.

Theories of Mind	Arguments for the Theory	Arguments against the Theory
Substance Dualism	Immortality, Free Will and the Conceivability Argument	No plausible explanation given for how a non-physical mind can interact with a physical body, Problem from evolutionary considerations, Failure to account for the mind-body problem.
Behaviorism	Solves the concern of how a non- physical mind can interact with a physical body, thean epistemic asymmetry between knowing our own minds and the minds of others is dissolved, allows the study of mind through experimentation and observation.	No reference to an internal state of an organism is made, what an organism does or is disposed to do at any given time is a very complicated function of its beliefs, desires together with its current sensory inputs and memories, suffers from the problem of Qualia.
Physicalism	A Physicalist account could explain why someone's moods could be affected by things like drugs and alcohol; The theory of Physicalism can also explain how a non-physical mind can interact with a physical body by accounting for organism's mental states in terms of its brain states.	The theory of Physicalism avoids the serious problem of how a non-physical mind can interact with a physical body. The theory of Physicalism fails to bridge the gap between the knowledge we have of our own minds and the minds of others.
Property Dualism	It can account for the quite different states of consciousness, beliefs and desires and talks about the states of physicality like odor, shape, and size. Property Dualism avoids the postulation of a substance that has no causal history in the natural world.	An inability to explain consciousness as a physical process, an inability to account for the difference in the way in which we know the mental and physical processes.
Functionalism	It increases the boundary of systems that can be counted as having a mind or mental state.	Problem of Qualia

Fig 2.8: (Arguments for and against the Theories of Mind)

Periodic Table of the Mind in Philosophy of Mind				
S.No	Period	Philosopher	Classification	Conception Of Mind
1.	Pre-Socratic (c.624 BCE)	Thales	Ancient	Everything has a soul including inanimate objects.
2.	Pre-Socratic (c.610 BCE)	Anaximander	Ancient	Mind is a guiding force of the cosmos.

3.	Pre-Socratic (c.570 BCE)	Pythagoras	Ancient	Mind is immortal and central to the pursuit of Knowledge.
4.	Pre-Socratic (c.580 BCE)	Philolaus	Ancient	The mental and the physical are different (Dualism – The mind is different from the body).
5.	Classical (c. 469 - c.399 BCE)	Socrates	Ancient	Emphasized on the self-knowledge and the ethical understanding of the soul.
6.	Classical (c. 427 – c.347 BCE)	Plato	Ancient	Developed the Theory of Forms according to which the Mind or the Universal Form is the True Essence of a person.
7.	Classical (384 – 322 BCE)	Aristotle	Ancient	The mind is the form of the body, emphasizing perception and reason.
8.	Hellenistic (c.204 – c.270 BCE)	Plotinus	Ancient	The mind is the emanation from the One.

9.	354 – 430 CE	Saint Augustine	Medieval	Mind reflects divine truth.
10.	1225-1274 CE	Thomas Aquinas	Medieval	Integrated Aristotelian philosophy with theology, defined the mind in rational terms.
11.	1596 – 1650	Rene Descartes	Modern	Proposed Dualism, asserting that the mind is distinct from the body.
12.	1709 – 1751	Jullien Offray de La	Modern	Advocated for a materialistic view of the

		Mettrie		mind, suggesting that humans are complex machines and consciousness arises from physical processes.
13.	1588 – 1679	Thomas Hobbes	Modern	The mind is a mechanical process rooted in materialism.
14.	1632 – 1704	John Locke	Modern	Introduced the mind as a blank slate or tabula rasa which is shaped by experience.
15.	1685 – 1753	George Berkeley	Modern	Reality consists of minds and their ideas.

16.	1717 - 1776	David Hume	Modern	Mind consists of a bundle of perceptions without a true self.
17.	1788 – 1860	Schopenhauer	Modern	The will is the driving force behind the mind and behaviour.
18.	1844 – 1900	Friedrich Nietzsche	Modern	Criticized the traditional conceptions of mind and Emphasized on instincts and drive.
17.	1788 – 1860	Schopenhauer	Modern	The will is the driving force behind the mind and behavior.
19.	1832 – 1920	William Wundt	Modern	Psychological experience or the mental states of human beings is tied to the physiological experiences of

				human beings.
20.	1842 – 1910	William James	Modern	Mind and Matter are both aspects of, or structures formed from a more fundamental stuff called pure experience which is neither mental nor non-physical.
21.	1904 – 1990	B.F. Skinner	Modern	Advocated behaviourism.
22.	1905 – 1980	Jean Paul Sartre	Modern	The mind is not a substance and there is no distinction between the mental and the physical as was upheld by Descartes dualism.
23.	1900 – 1976	Gilbert Ryle	Modern	Mind is just a disposition to behave in a certain way.
24.	1930 – Present	John R. Searle	Modern	The mind arises from brain processes.
25.	1926 – 2016	Hilary Putnam	Modern	Developed a theory called machine state functionalism according to which the mind or the mental states are defined by their functional roles.
26.	1942 – 2024	Daniel Dennett	Modern	Gave a materialist and evolutionary perspective of mind and consciousness.

27.	1966 – Present	David Chalmers	Contemporary	Holds naturalistic dualism according to which mental states supervene naturally on physical systems and mental states or the mind is ontologically distinct from and not reducible to physical systems.
28.	1950 – Present	Gualtiero Piccinini	Modern	Advocated a Mechanistic View of Computation and Mind
29.	1910 – 1988	Herbert Feigl	Contemporary	Proposed the mind-brain identity theory asserting that the mind is identical to brain states.
30.	1935 - 2000	U.T. Place	Contemporary	Argued for a materialistic account of the mind, stating that mental states are brain states.
31.	1922 – 1982	J.J.C. Smart	Contemporary	Mind is equivalent to or identical to physical states.
33.	1932 – 2013	Fred Drestke	Contemporary	Proposed a Representational Theory of Mind which gives importance to Information and knowledge.
34.	1942 – Present	Ned Block	Contemporary	The mind is the software of the brain. He also distinguished between access consciousness and phenomenal consciousness.
35.	1926 – 2010	D.M. Armstrong	Contemporary	Developed a Materialist Theory of Mind which focused more on the Physicalistic Brain.
36.	1941 - 2001	David Lewis	Modern	Advanced the concept of Modal Realism and discussed the implications for understanding the mind.
37.	1877 – 1971	C.D. Broad	Modern	Explored the implications of scientific advances for theories of mind and consciousness.
38.	1917 - 2003	Donald Davidson	Modern	Individual mental events are identical to individual physical events. He holds a materialistic and a monistic conception of mind called anomalous monism.

40.	1934 - 2017	Jaegwon Kim	Modern	Critiques physicalism and explained the problems of mental causation. He also explored the mind-body problem through an innovative lens.
41.	1946-Present	Terence Horgan	Modern	Gave a Representational conception of mind and consciousness.
42.	1943 – Present	Frank Jackson	Modern	Gave the knowledge argument emphasizing on the fact that the physicalist accounts of explanation are not enough to account for subjective aspects of the mind and consciousness.
43.	1937 -Present	Thomas Nagel	Modern	Argued that subjective experiences cannot be fully understood through objective physical explanations.
44.	1919 - 1997	Raymond Smullyan	Modern	Raised philosophical puzzles and dilemmas about the nature of mind and consciousness.
45.	1825 – 1895	Thomas H. Huxley	Modern	Advocated for a scientific understanding of the mind and consciousness. According to him, mental states and events are caused by physical states, but themselves don't cause anything.
46.	1967 – Present	Daniel Stoljar	Modern	Explored the implications of the knowledge argument and the nature of consciousness and the mind.
47.	1940 - 2022	Saul A. Kripke	Modern	Engaged with understanding the identity theory and the implications of names for understanding mental states.
48.	1942 – Present	Christopher S. Hill	Modern	Focuses on consciousness, perception and the metaphysical implications of mental states.
49.	1912 - 1989	Wilfred Sellars	Modern	Rejects Cartesian substance dualism and the thesis that mental states are fully knowable simply by introspection. As an alternative

				he conceives of mental states simply by introspection.
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Figure 2.9: (A Table for the Periodic Table of Mind in Philosophy of Mind.)

The Presocratic philosophers have no conception of talking about the mind in a systematic and a coherent way as the philosophers of mind are currently practicing in the field of philosophy of mind. The views of the Presocratic about the mind cannot even be identified by the psychologists as the way in which they talk about the mind is much broader in scope than that of the one given by the psychologists. These philosophers such as Thales, Anaximenes, Anaximander, Pythagoras and Philolaus and so on identify the mind with a sort of a living force which they identify as the soul. They identify three words as identical – “soul”, “mind”, and “life matter”. These philosophers consider the soul to be consisting of life force and they distinguish between things which have a life force from things which doesn’t have a life force and they distinguish between things which doesn’t have a life force.¹⁰⁴

According to Thales, the set of living things is broader than that of living things such as plants, animals and human beings. Thales argues that everything has a mind which he identifies with the power to cause motion in itself and things other than itself. Thales argues that even the substance such as non-living things such as chairs, woods and magnets have also got certain form of life to it, that is a magnet has a mind, that is it has a certain degree of life to it as it attracts things towards itself and has a characteristic of causing motion in other objects.¹⁰⁵ Anaximenes argues that all matter is alive according to which there is no distinction between the animate and inanimate objects – which is known as the position of hylozoism. Anaximenes considers air as the fundamental stuff of the universe which is responsible for the regulating and the animation of the different aspects of the cosmos or the universe. Anaximander argues that the fundamental principle which he calls as an indefinite something according to which he argues that this indefinite something is unlimited and governs and regulates the principles of the universe.¹⁰⁶ Philosophy of Mind in the Pre-Socratic Period was not an empirically founded coherent principle based on proper argumentation, but was rather based on imagination and mysticism not tied to the verifiability of any argumentative analysis and as these Pre-Socratic Philosophers do not use any empirical investigation and therefore, they use the term “soul” instead of “mind”.¹⁰⁷ In the early pre-Socratic period the distinction between the conception of dualism and monism was characterized by the question as to whether the body is identical to the soul or not. If the body is identical to the soul, then the conception is monism and if the body is not identical to the soul, then the conception is called as dualism.¹⁰⁸ Pythagoras identifies the soul or the mind with a dynamic soul like stuff.¹⁰⁹

For Philolaus, the powers of thought, desire and reproduction are situated in different parts of the body and he argues that the power of thought is only belongs to the mind of the humans and cannot be found in other species such as plants and animals which have only got the properties of desire and reproduction to them. Philolaus states that “The head is the seat of thought; heart is the seat of life and soul.”¹¹⁰ Aristotle develops

¹⁰⁴ John Sisko, *Philosophy of Mind in Antiquity: The History of the Philosophy of Mind, Volume 1* (London: Routledge, 2018), 3

¹⁰⁵ Sisko, *Philosophy of Mind in Antiquity: The History of the Philosophy of Mind*, 4.

¹⁰⁶ Sisko, *Philosophy of Mind in Antiquity: The History of the Philosophy of Mind*, 37.

¹⁰⁷ Sisko, *Philosophy of Mind in Antiquity: The History of the Philosophy of Mind*, 4.

¹⁰⁸ Sisko, *Philosophy of Mind in Antiquity: The History of the Philosophy of Mind*, 6.

¹⁰⁹ Sisko, *Philosophy of Mind in Antiquity: The History of the Philosophy of Mind*, 7.

¹¹⁰ Sisko, *Philosophy of Mind in Antiquity: The History of the Philosophy of Mind*, 4-5.

his conception of soul and its relation with the body as a conception of hylomorphism according to which the soul is a substance which is a form of the natural body and this soul has life potentiality. According to Aristotle, body is a form of matter which is influenced by the soul and the soul is a form of the living body.¹¹¹ Socrates follows and argues for the immaterial/material dualism according to which the mind or the soul is not dividable into parts, so it is immortal and indestructible whereas the body is dividable into parts, and therefore it is destructible and mortal. Plotinus argues that the unity and the coherence of our perceptual awareness is only possible due to the reason that the soul is a non-dividable entity.¹¹² Saint Augustine argues for the position that the soul is not identical with the body. Augustine further argues that the capacity of the soul to be aware of the different parts of the body at the same time proves the position that the soul is non-bodily in nature.¹¹³

1.6 Contemporary Theories of Mind

In recent times, contemporary theories of mind such as the Dynamical Systems and the Mechanistic System way of explaining the mind have come to the forefront. The mechanistic models of mind are trying to explain the mind in a way that is entirely materialistic and physical. The mechanistic account deals with such questions as – what makes a mind think?, Rene Descartes considered the body to be a machine, that is roughly a system of movements that can be explained in bits of matter, the Dynamical System approaches deal with the Symbol – System Theories in which concepts such as “mechanistic view and rules” sometimes referred to as Good Old-Fashioned AI (“GOFAI”) is also being talked about.¹¹⁴ The theory of mind is also explained through linguistic model such as Mentalese and Language of Thought (LOT) Hypothesis given by Jerry Fodor. Fodor argues that language and thought share characteristics like productivity, systematicity and inferential coherence.¹¹⁵

1.6 Investigations and Highlight the Research Gap

In the realm of Philosophy of Mind, the most prominent research gap can be found in the theory of interactionism proposed by Rene Descartes between the Material Body and the Immaterial Mind. A Conceptual Incoherency is seen when the mind and the body interact with each other. The movements of our bodies that happens can be accounted for by referring to expansion and the contraction of certain muscles in our bodies, and the cause of contraction and expansion of these muscles is the electrochemical impulses sent to the muscles from the brain.¹¹⁶ But, how can a relation be shown between a physical substance called a body and the mind through the pineal gland which is in itself a localized entity in the brain. How can something which has a locality in itself (pineal gland) seems to explain the relation between something which is non-local (the mind) and something which is local (the body). If the pineal gland has to allow for an interaction between the mind and the body, then it has to cover both the aspects of the mind and the body, which is that the pineal gland has to be local and non-local at the same time which is not possible as it goes against the principle of non-contradiction. To bridge the explanatory gap between the mental and the physical through the medium of the pineal gland is not possible as it violates the one law of thought which is the principle of non-contradiction. This can be seen as a methodological incoherence where we are trying to explain and bridge the gap between

¹¹¹ Sisko, *Philosophy of Mind in Antiquity: The History of the Philosophy of Mind*, 7.

¹¹² Sisko, *Philosophy of Mind in Antiquity: The History of the Philosophy of Mind*, 7.

¹¹³ Sisko, *Philosophy of Mind in Antiquity: The History of the Philosophy of Mind*, 8.

¹¹⁴ Cunningham, *What is a Mind?: An Integrative Introduction to the Philosophy of Mind*, 189-192. Descartes considered the body to be a machine consisting of component parts that are operated solely on the basis of the components of the body parts on the basis of the neurological processes going on in the brain and the processes which make up both the mind and the brain and the interconnection of both the brain states and the mind states through the medium of the interaction of the component parts.

¹¹⁵ Cunningham, *What is a Mind?: An Integrative Introduction to the Philosophy of Mind*, 192.

¹¹⁶ Neil Campbell, *A Brief Introduction to the Philosophy of Mind* (Ontario: Broadview Press, 2005), 27.

the mental and the physical by giving a method which violates the principle of non-contradiction.

If Pineal Gland is taken as the Interactive Principle between the Mind and the Body Then, The Pineal Gland has to cover both the qualities of locality and non-locality Because, The Mind is Non-Local and the Body is Local But the Pineal Gland is a localized entity in the brain which has no non-local nature Therefore, as the Pineal Gland has only localized nature and cannot have any non-locality And further, if we Pineal Gland has both local and non-local nature Then, the above Method commits the fallacy of not following the principle of non-contradiction Therefore, Explanation of Mind-Body Interaction through Pineal Gland seems a kind of Methodological Gap of the Research

Fig 2.11: (A Methodological Gap for the Interactionist Dualism)

The Conceptual Incoherency arises as there is no further reason that needs to be given for the causal explanation of the movements of the body than the electrochemical impulses that take place in the brain. The Conceptual Incoherency arises when we try to trace the origins of the movements of our bodies by discovering a point of locus where the brain and the non-physical mind interact to cause the movements. A Methodological Gap can also be seen in Descartes' model of the conception of locus of interaction between the mind and the body which is located at the back of the brain called the pineal gland. This is a methodological problem of explanation where something which is non-local such as the mind is explained through the method of employing an entity called the pineal gland which has a location. The method used for explaining the non-locality of mind with the locality of the pineal gland creates a methodological incoherency.¹¹⁷ If we attempt to explain the relationship between the physical brain and the experience of phenomenal consciousness, we fail to explain details regarding the same. Therefore, there are several philosophers of Mind and Cognitive Sciences have been drawn the conclusion from the two cases so-called explanatory gap.¹¹⁸ Besides, gap between physical phenomena (brain activity) and consciousness, such that it is difficult to see how physical phenomena could explain the existence of consciousness. Physicalists have developed some interesting responses to the position of explanatory gap is considered as a conceptual gap or conceptual incoherence.¹¹⁹ On the other side, the explanatory gap doesn't arise because we can't think of the mind-body relation in a way other than a dualistic way of looking at the relation between the mind and the body.¹²⁰ For instance, no amount of physical information on the part of Mary who is color blind can have a direct access to what it feels like to see color, even though she may gain all the information about the neuro-psychophysical nature of the different types of color and at what different wavelengths the different colors operate at. So, there is a gap of explanation or a

¹¹⁷ Campbell, *A Brief Introduction to the Philosophy of Mind*, 27. The methodological incoherency arises because the interaction between the mind (non-local) and the body (local) cannot be explained in a full and a comprehensive way by accounting for a new principle of the pineal gland (local) which is solely having the characteristics of the locality of the pineal gland. If the pineal gland was given the choice of interacting with only the body (local), then the explanation given would have been empirically and scientifically robust and coherent, but to account for the interaction between a local principle and a non-local principle, we need an entity which has both the characteristics of being a localized entity and also of being non-local.

¹¹⁸ Pete Mandik, *This Is Philosophy of Mind: An Introduction* (Hoboken: John Wiley & Sons, 2022), 27.

¹¹⁹ T. Bayne, *Philosophy of Mind: An Introduction* (Routledge, 2021), 4.

¹²⁰ David Papineau, "What Exactly is the Explanatory Gap?" *Philosophia* 39, no. 1 (2010): 1, doi:10.1007/s11406-010-9273-6. The problem of explanatory gap can be seen as a sort of a rigidity to keep accepting the position of dualism according to which the mental and the physical are two different substances with different qualities. The moment we start to abandon the position of strict dualism where we see the mental and the physical as two different substances, it is only after that we start to a problem where the mental states and the physical states have a sort of disharmony and unconnected nature. But as soon as we begin to start accepting the position of the mind-brain identity theory as the best explanation of the theory of mind seeing that this is the theory that has started being accepted by the new sciences of our times which are giving a materialistic explanation to the sciences. The problem of the explanatory gap arises only because of our assumption that dualism is the most coherent theory of mind and even if we start to accept the mind-brain identity theory, then also some explanation of the mind will be left out of the explanation of the mind-brain identity theory.

problem of explanation as to how Mary who has all the physical information about the color cannot have direct access to the qualitative and non-physical aspects of the color.¹²¹

Conclusion

In this article, I discussed and argued about the fundamentals in the field of Philosophy of Mind such as What is a Mind? What is Philosophy of Mind and with which questions does it deal, I also dealt with the fundamental theories of mind and body and the mind-body interactionism given by Rene Descartes. The first chapter of the Dissertation “The Background of the Study” was more about giving a vast amount of information that is there in the field of Philosophy of Mind and its fundamentals.

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¹²¹ Frank Jackson, “What Mary Didn’t Know,” *The Journal of Philosophy* 83, no. 5 (1986): 1, doi:10.2307/2026143.

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