

**JAEGWON KIM AND THE MIND-BODY PROBLEM:
A CRITIQUE**

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DECLARATION

I declare that this research project is my original work except where due reference is made and neither has it been nor will be submitted elsewhere for the award of a degree.

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DEDICATION

With my heart and soul I dedicate this work to the following; first my mentor and financier Dr. Muriel Blaisdell of Miami University who tirelessly and generously supported me financially, spiritually and morally throughout my study; to Jacqueline Shidogo for her steadfast support and encouragement through my studies that was comparable to none. And finally to my beloved mother, Norah Imbunya and my father the late Meshack Imbunya. Thank you all. Through your support my work was made easy and successful.

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ABSTRACT

The mind-body problem is one of the thorny metaphysical issues in the history of philosophy. The problem is concerned with finding a relationship between our mental states and our physical states. Many major figures in philosophy have attempted to explain how the material body and the immaterial mind affect each other in terms of causation; which among them is primary and causes the other, and how the two affect each other in terms of perception and action. A contemporary philosopher who has tried to solve this problem is Jaegwon Kim, a well-known physicalist, who argues that causation only takes place in the physical domain. Accordingly, mental properties supervene and depend on physical properties hence mental events are causally impotent and only occur as shadows of physical events (Kim, 2000, 289).

This study is an appraisal of Kim's philosophy of mind with the aim of demonstrating that his understanding and interpretation of mental causation does not hold. The main question in this study is this: does reducing mental properties to physical properties by way of supervenience account for the qualitative properties of conscious perception as experienced subjectively; *qualia*? Understanding the mind-body relation does not only solve problems in philosophy but also in other disciplines like psychology, sociology, medicine as well as in cognitive neuroscience for better understanding of human behaviour.

This study argues that, like the many before him, Kim does not satisfactorily address the mind-body problem. The 'supervenience argument' as presented by Kim is inconclusive and fails to challenge non-reductive physicalism. It does not capture *qualia*, the qualitative properties of conscious perception which occur in the mental domain and are irreducible to the physical domain; hence his account does not address the mind-body relation fully.

An analysis of Kim's arguments for physicalism since 1980s to his contemporary stance on the mind-body relation shows evidence that he has held different incompatible views on the mind body relation over time. This should be taken as an indication of the instability in his supervenience argument.

In order to salvage physicalism, this study argues that Kim should give up his supervenience argument and just maintain that mind is a constituent of the body and therefore reducible to it. This will address the problem of the relation of *qualia* to the material domain since all mental properties will be constituted in the physical domain.

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SYNONYMS AND ABBREVIATIONS

P: Subvenient physical properties

M: Supervening mental properties

t: A given time

P*: Resultant (caused) physical properties

M*: Resultant (caused) mental properties.

PW: Possible world where mental effects occur without supervening on physical
Properties (M occurs without P).

NRP: Non-reductive Physicalism

RP: Reductive Physicalism

CHAPTER ONE

GENERAL INTRODUCTION

1.1 Background to the Study

People generally believe that the mind is the brain and mental states are brain states. It is difficult to see how this is possible since mental and brain states have different properties and nature. The mind and body have different objects, properties and relations hence different qualities. Given that the two have different qualities, any attempts to explain how they relate in terms of causation leads to an endless debate yet common sense tells us that the two have causal effect on each other. When we attempt to show a relationship between the mind and the body while acknowledging that they are of different natures leads to the "mind-body problem", a problem encountered when explaining how the mind and the body relate.

This study seeks to evaluate Kim's physicalism theory in relation to theories that have discussed the mind-body problem. The study focuses on various interpretations of how the immaterial mind emerges, coexists with a material body and how it affects or is affected by the body with specific reference to Kim's supervenience argument.

The possibility of mind-body interaction becomes problematic when we attempt to describe the mind and the body as distinct and of different natures and attempt to demonstrate that the two coexist and affect each other. Given that the mind and the body have been commonly identified by different ontological descriptions, they are often discussed in philosophy separately and as distinct entities with a special kind of relationship. This distinction has drawn the attention of philosophers on whether it is warranted or not. Those who have participated in the mind-body debate have given varying theories most of which are

incompatible with other existing theories. The central concern of this research is to examine Jaegwon Kim's argument of "supervenience" as a way of property covariation between mental and physical properties; how mental properties occur in relation to the occurrence of physical events (Kim, 1998, 14). Mental properties are said to supervene on physical properties when mental properties depend on the physical properties such that any change in physical properties is a change in mental properties (Kim, 1998, 14).

This study examines the nature of mind in relation to the body and whether the mind is capable of taking part in causing effects in the physical world or if it remains causally impotent. The objective of this study is to find answers to the questions; how (or if) mind emerges from the physical processes of the body and whether the mind can be described in physical terms. The study also seeks to evaluate the role of the mental domain in terms to causation; whether the mental domain is efficacious or causally impotent and whether supervenience is the only viable way of mental-physical property covariation as Kim wants as to believe.

In order to demonstrate the relationship between the mental and the physical domains, philosophers have come up with various theories some of which end up in controversies. Mind-body theories are attempts made by philosophers to solve the paradox of the mind-body relationship -in a narrow sense, the relation between the mind and the brain. The mind-body problem is mainly discussed in the disciplines of philosophy and cognitive neuroscience where philosophy deals with the theoretical and metaphysical aspects of the mind-body relationship while science looks at the objective aspects. Science has made notable progress through artificial intelligence by demonstrating the relationship between hardware and software by innovations like robots which simulate human behavior (Desai, 2017, np). This

relationship in computer based programs exemplifies the mind-body relationship in humans by depicting how mental properties emerge from biological systems and how software affects hardware. The findings of artificial intelligence can be traced to the philosophy of Plato and Descartes' "ghost in a machine" hypothesis (Ryle, 1949, 378).

The invention of computer based programs that are capable of participating in the "Turing test" have shown that the human mind-body system functions on a model similar computerized systems. Philosophers who uphold the computationism hold that the mind can be likened to the computer's central processing unit (CPU) where all functions of the body are processed. The human body can be compared to the computer hardware, while the mind can be compared to the computer software. However, philosophically speaking, the functioning of the human system shows some more complex functions that are beyond what computers can do, particularly the emergence of conscious states. This makes it necessary for philosophers of mind to evaluate in depth the relation of the mind to the body and how mental systems emerge and function with the physical body.

Understanding how our feelings such as emotions and cognitive aspects of our lives relate to the physical world is paramount to our understanding of human nature in order to improve human life and understand our surroundings. The study of mind-body relation should be aimed at enhancing the study of psychology, sociology and medicine as well as disciplines that concern the wellbeing of the human kind.

The study of how cognitive properties relate to matter which is the primary concern of science and philosophy raises questions that need to be answered in the discourse on mind. The questions raised in the mind-body debate have remained unanswered in the history of

mankind and continue to task philosophers in the contemporary debate. Various philosophers have discussed the problem concerning the mind-body relationship by different theories but no consensus has been reached on the nature and relation of the mind to the physical body and matter in general. The debate on the mind-body relationship has given rise to differing outcomes which leaves the debate on mind inconclusive to date.

The mind-body problem is discussed in philosophy under two main approaches; dualism and monism. Dualism maintains that mind and body exist in different domains but mind interacts with matter to make up the human. Theories in support of a dualist nature of the human argue that mind "is not body" and body "is not mind" but they, however, relate in certain ways. On the other hand, monism maintains that there is only one essence in nature by which all reality can be explained. Physicalists argue that this essence is matter while idealists argue that it is mind.

The main approaches of dualism are substance dualism and property dualism. Substance dualism maintains that the human is made up of mind and body where mind is made up of a substance different from that which makes up the body. The mind, according to substance dualism, does not operate under laws of physics. Property dualism asserts that; although reality is made up of just one substance -matter, there exist physical properties distinct from mental properties. Plato's dualism (427-347 BC) argued that the soul pre-exists history and gets imprisoned in the body. According to this view, humans are essentially souls or spirits caged in a body (Plato, 1956, 346). Plato's theory shows a distinction between the mind or soul and the body as distinct entities. Christian theology believes in a dual existence of the human; the body, which is mortal and the soul which is immortal. The theory of dualism was propagated and popularized by René Descartes' substance dualism in the 17th century.

Monism includes physicalism which argues that all entities in the world are physical entities and can be explained in physical terms including mental attributes. Material monism argues that mental entities are related to the physical domain by virtue of the world being predominantly physical. According to this view, non-physical entities cannot exist and affect matter. For this reason, mind can only affect matter if it is identified with or reduced to the physical domain. Physicalism asserts that every mental property is a physical property and can be explained in purely physical terms. Idealism, on the other hand, is the theory that mind is the only existing reality and matter is just an illusion of the mind.

Physical monism or materialism, on the other hand has two approaches; the first materialist theory is non-reductive physicalism which argues that mental events are physical events but remain in a separate domain hence are irreducible to physics. Reductive physicalism has the opposite view that mental properties must be reduced to the physical domain since all reality is physical or somehow related to it. Emergentists argue that mind emerges from matter but it is not matter itself and has distinct properties. Eliminativists argue that every property that exists in the spatial-temporal world is physical. Mind simply does not exist.

Reductive physicalism can be formulated in two main ways. The first one simply states that mind is a physical entity and reducible to physics but does not offer a theory on the covariation between the mind and the body. The basic argument in this view is that mind is a constituent of the body and there is no need to explain how the two relate. David Papineau is one of the main proponents of this theory. The second approach to physicalism is the supervenience approach introduced to the study of mind by Donald Davidson and popularized by Jaegwon Kim in 1970s.

The concept of supervenience is derived from two words; "super" meaning "above" and "venire" meaning "come". In any supervenience relationship, a property *A* is said to supervene on another property *B* if *A* is determined by *B* so that to change *A* you must make a change in *B*. *A* are the supervenient properties while *B* are the subvenient base properties. Supervenience is used in a manner that does not imply strong reductive relationship which means supervenience cannot be used to study physical properties in order to understand mental properties in terms of physics.

Kim's contribution to the debate on the mind-body is centered on defending the basic tenets of reductive physicalism through his "supervenience" argument that mental properties depend on physical properties in such a way that; in order to make a change in mental properties you must change physical properties that give rise to the mental properties (Kim, 1998, 14). This research evaluates Kim's theory of supervenience in order to ascertain if it successfully challenges non-reductive physicalism which argues that mental properties depend on the physical properties but are irreducible to the physical domain.

According to Kim's supervenience based physicalism, the mental domain is causally impotent and does not take part in causing physical effects since causation takes place (only) in the physical domain. But Kim also argues that the subjective qualities of conscious perception *qualia*, which are mental qualities, remain outside the physical domain and are irreducible to physical properties. This study is a critical evaluation of Kim's account of the relationship between the mind and the body. More specifically, the study examines Kim's supervenience theory in terms of successes and failures in explaining the mind-body relationship.

1.2 Statement of the Research Problem

Mind-body theories that have attempted to resolve the mystery surrounding the mind-body relationship have failed to conclusively state how the two relate. The Pre-Aristotelian through the Cartesian periods are characterized by mind-body dualism, the view that mind and body are distinct entities but relate causally. This view was rejected due to its failure to demonstrate how two radically distinct substances could have causal interaction.

Physicalism or materialism which is based on the idea that everything that exists in the world is physical or emerges from activities of matter is dominant in the contemporary debate. The mind, according to physicalism is material or is associated with the material domain and emerges as a result of activities of matter. Non-reductive physicalism suggests that the world is made up of matter but mind cannot be reduced to physical components. Reductive physicalism argues that the world is predominantly physical and can be reduced to physical components.

Jaegwon Kim argues for an influential version of reductive physicalism based on supervenience as a way of property covariation between mental and physical properties. He argues that causation is limited to the physical domain and mental properties (merely) "supervene" and therefore depend on physical properties. Accordingly, mental properties are causally impotent and reducible to the physical domain. However, he admits that the felt qualities of conscious perception, *qualia* remain outside the physical domain and are irreducible. How can we then account for the existence of *qualia*? Kim's arguments therefore fail to conclusively state the mind-body relation due to the inability of supervenience based reductive physicalism to account for all mental events in relation to the physical domain, particularly the emergence of *qualia*.

There is need therefore to identify why Kim's theory fails to account for *qualia* and how to solve the problem of the relation of *qualia* to the physical domain. Kim maintains that all existence in in a world that is predominantly material should have a physical causal explanation. In this case, qualities of mind are physical or can be explained in physical terms due to their underlying physical subvenient properties. He also claims that any causation involving the mind is due to, and is caused by its underlying subvenient physical properties and mental properties are physical due to their relation to the physical domain.

If Kim maintains this position, then effects in supervenient reductive physicalism are always overdetermined due to his claim that all reality is physical including mental properties. Mental properties, in this case, will have to participate in causing physical effects due to their physical nature in a chain of mental-physical causation.

But to overcome the challenge of causal over determination, Kim formulates arguments that are intended to demonstrate impotence of the mental domain which brings about the problem of accounting for *qualia*. This research set to demonstrate that the human is made up of matter and mind. The two form a single unit where mind is reducible to the physical domain. The mind is a constituent of the body, can be described in the physical terms and is reducible to its physical components.

This research recommends that Kim finds a simpler and precise basic argument to replace his physical closure principle asserts that all physical effects have sufficient physical causes and the causal exclusion principle which asserts that any single effect should have at most one complete causal explanation at any given time. His problems with accounting for *qualia* and consciousness are grounded in his over dependence on the exclusion and causal closure principles. He should come up with simpler principles to that explain causation in its totality and should be compliant with Ockham's razor, the principle of simplicity put forward by

William of Ockham, which states that clarity of a theory depends on its simplicity -the simpler the theory the more likely it is to be true.

1.3 Research Questions

1. Is mind a material thing?
2. Does mind affect the material world?
3. How does Kim's physicalism account for the existence of *qualia* and consciousness?
4. Is physicalism correct?

1.4 Objectives of the study

This study set to critically evaluate Kim's mind-body theory with the aim of demonstrating that Kim's understanding and interpretation of mental causation does not hold. This study evaluates mind-body theories in order to justify physicalism or materialism as the most viable approach to the mind-body problem. This research project evaluates mind-body theories on physicalism in order to show if physicalism should be based on the theory of supervenience and the shortcomings of supervenience based reduction. This research project gives recommendations on how Kim's version of physicalism can capture all aspects of mind including *qualia*.

1.5 Justification of the Study

Understanding the mind-body relation does not only solve problems in philosophy but also in other disciplines like psychology, sociology as well as in cognitive neuroscience for better understanding of human behaviour. The findings in the study of mind-body relationship can be integrated in sociology, psychology and more importantly the study of psychosomatic medicine as part of remedies to psychological disorders which have become rampant in modern society.

1.6 Scope and Limitations to the Study

This study is limited to physicalism/materialism, the view that all reality is made up of matter or is closely related to it. It is centered on "supervenience" approach to the mind-body problem in context to the available physicalism theories. This study is limited to theory and review of literature within the scope of this study. Given that Kim approaches this problem with enormous references to physics and physical laws, this study will not tackle issues in quantitative physics or biology to verify Kim's claims and will be limited to metaphysics and disciplines related to the theory of philosophy

.1.7 Definition of Terms

Anomalous Monism: states that mental events are identical with physical events, but the mental is not regulated by strict physical laws.

Substance: is the essential nature underlying phenomena, which is subject to changes and accidents

Epiphenomenalism: The view that mental properties are causally impotent and incapable of instantiating secondary effects.

Exclusion Principle: asserts that any single effect should have at most one complete causal explanation at any given time.

Mental-Physical Efficacy: the claim there are mental causes of physical effects

Multiple realization: is the thesis that a single mental property, say pain, can be realized by different physical properties including in computer systems.

Non-Reductive Physicalism: A type of materialism which claims that everything that exists in the world is material but also claims that mental states cannot be reduced to physical states.

Physical Causal Closure: asserts that all physical effects have sufficient physical causes.

Physicalism: Also known as materialistic monism is the doctrine that the real world consists of the physical world.

Physical closure principle: asserts that; all physical states have physical causes.

Reductive physicalism: A branch of materialism which asserts that mental properties can be reduced to physical properties.

Supervenience: is the idea that higher level properties depend on lower level properties for their existence. For example mental properties depend on physical properties in such a way that there cannot be a change in a mental property without a change in the physical property.

Qualia: the intrinsic subjective felt qualities of conscious perception.

1.8 Methodology

This is a library based research which involves evaluation and analysis of written literature related to the mind-body problem. This research has its sources of data as books, journals, Internet sources, and any literature that has relevant material. The method involves analysis of written sources and identifying relevant sections and comparing the ideas in order to reach a conclusion on the most viable and contemporary mind-body relationship approach. This research will be entirely based on the philosophical approach of conceptual analysis.

CHAPTER TWO

A HISTORY OF THE MIND-BODY PROBLEM

2.0 Introduction

This chapter gives a historical background of some theories of mind that preceded Kim's supervenience based reductive physicalism. The aim here is to put into perspective Kim's contribution to the mind-body debate by discussing literature on the mind-body problem that preceded Kim's type of physicalism. This chapter shows how the mind-body discourse has developed since the philosophy of Plato to contemporary philosophy of mind which has, to a large extent, been dominated by physicalism or materialism. The trend here shows weaknesses of preceding arguments for mind-body union. In the contemporary debate on mind we find Jaegwon Kim who begins his contributions in the 1970s and argues that the mind depends on and can be reduced to functions of the body by way of supervenience.

2.1 A survey of the History of the Mind-body problem

The problem of explaining how the Mind relates to the body has been discussed by philosophers for centuries. Plato argued that all reality is made up of the physical part which partakes of the ideal form which is exemplary (427-347 BC). For Plato, every reality has an ideal form which he referred to as "thingness" which is a perfect form from which all things derive their essence. He referred to the soul as the essence of man. Human nature, according to Plato, comprises the physical part, the body, and the nonphysical part, the soul. The soul pre-exists the body and it is imprisoned in it in a life (Plato, 1956, 457).

The relation between the mind and body was, as well, discussed in the pre-Aristotelian times in the discourse commonly known as Avicennian philosophy. During this period, the soul was discussed in relation to the body as the rational part of the human that survives death. This period was dominated by scholastics who attempted to rationally demonstrate that the human soul is closely related to the body but is capable of existing alone after death. Aristotle's philosophy is studied under this period which was dominated by dualism with reference to the soul or mind and the body. He argued for a form of mind-body dualism which considered the soul as the rational part of the human and the "form" of the body (Aristotle, 1976, 77).

Aristotle's views on the soul had very close resemblance to those of Plato since he had been influenced by Plato who was his teacher. He divided the human into the rational soul and the body which led to his famous saying "man is a rational animal." Plato and Aristotle took a dualist stance in their discourse on the mind-body relation. Like the Avicennians, Descartes began his project in the 17th century as part of his inquiry into his faith in the Catholic Church in order to rationally demonstrate immortality of the soul.

Descartes discovered that some of the knowledge he acquired in the books was misleading and would be proved wrong with time. For example the belief that the earth was flat was disproved and it was confirmed that it was indeed spherical. He sought a method of verifying his beliefs and setting his knowledge on indubitable grounds. He devised a method of thinking that began with doubting all the knowledge he had acquired through his studies in order to subject his beliefs to verification. He discovered that the existence of the rational part of the human is indubitable and has primary existence to the existence of matter, in this case the human body.

The mind-body problem is primarily associated with René Descartes for "radically" separating the mind and the body as distinct substances that have radically distinct natures and functions. However, Dreyfus (1992, 57) observes that Descartes dualism is grounded in the philosophy of Plato and does not add anything new to Platonic ideas and the Avicennian philosophy. Substance dualism is only a confirmation of Platonic ideas. Descartes' arguments are made through a philosophical theory known as "substance dualism" which asserts that mind and body are made up of substances that are functionally different and of different ontological descriptions but they however affect each other.

Through his methodic doubt that required doubting every existing reality to indubitable truth, Descartes concluded that mind was the prime reality and indubitable existence hence his famous saying; *cogito ergo sum*, "I think therefore I am" (Descartes, 198, 17). He claimed that the human consists of two substances that are ontologically distinct, -mind and body. Mind is a substance whose only purpose is to think (*res cogitans*), "a thinking thing" while the purpose of the body is spatial extension (*res extensa*) an "extended thing". Cartesian dualism divides reality as made up of two independent domains; that which is mental and that which is physical, each of which has unique properties (Descartes, 1985, 57-7).

On mind-body union, Cartesian substance dualism argues that causal interaction takes place in the "pineal gland", an endocrine gland in the middle of the brain which is the "seat" of the soul and translates between the mind and the body (Descartes 1985, 60-1). But in order to do this, the mind has to be both material and immaterial, while Descartes argues that the two are utterly distinct and separate, a notion that makes substance dualism problematic. If the two substances are utterly distinct, as Descartes claims, then they cannot be causally related since they are made of substances with nothing in common (Descartes, 1985, 20). This theory of mind-body interaction could not give empirical evidence on the mind-body union and was

not convincing that the two distinct substances could interact causally. This led to rigorous arguments against substance dualism.

From Descartes' real distinction, it follows that physical causes produce physical effects and mental causes produce mental effects since the two domains comprise two incompatible substances. If like causes produce like effects, then mind-body interaction cannot be argued from the Cartesian account since the mind and the body cannot interact in the same domain. According to substance dualism, the mind and the body ontologically distinct and causation between the two domains happen haphazardly. This approach to the mind-body problem creates another problem of explaining causation in terms of the mind and body. The theory of mind-body union in the pineal gland could not be taken seriously as a philosophical argument. The Cartesian account proved inadequate in resolving the mind-body (union) problem and therefore became vulnerable to theories that attempted to resolve the problem by associating mental states to their corresponding neuropsychological states (physicalism).

The theory of physicalism claims that mental states are also physical states. Physicalism clearly rejects Descartes's claim that the mind or the "thinking thing" is primary to matter. Physicalism, unlike substance dualism and Platonism, views matter to preexist the mind and therefore the essence of reality. Some contemporary philosophers like Jaegwon Kim have claimed that Cartesian substance dualism is obsolete and should be ignored (Kim, 1998, 37). The consensus of philosophers who have studied substance dualism is that it cannot solve the mind-body problem due to the many objections that have been made against it. However, the discussion on the mind-body problem cannot be adequately addressed without putting in context Descartes' contribution to the discourse since substance dualism provoked the contemporary debate on mind.

Descartes acknowledged in his *Discourse on Method* that the radical ontological real distinction was not intentional but came as a result of his method for "clear, distinct and indubitable ideas" generated by his methodic doubt (Descartes,1985, 26).Descartes' method is systematic and leads logically his "real" distinction of the mind and the body. When we clearly understand Descartes' method of reasoning, it will be easy to understand that the mind and the body are functionally different -their ontology and roles to the functioning of the human whole are incommensurable. It is possible that the problems facing contemporary debate can be elucidated by Descartes theory that distinguishes the mind and the body as made up of unique substances and distinct substances. Substance dualism asserts that the ontology of these substances cannot be the same as claimed by physicalists since they have distinct ontological descriptions.

The problem facing contemporary reductive materialists like Kim is how *qualia* and consciousness can be related to the physical domain since they are irreducible to any physical bases. This problem does not face by substance dualists due to their claim that mental events are distinct from physical events therefore reduction is not necessary. Descartes' problem comes when he makes the claim that the mind is radically distinct and can exist independent of the body but they nevertheless affect each other in terms of causation, a claim that makes his version of mind-body relation problematic. He only points out that the mind interacts with the body in the pineal gland in the middle of the brain, a claim that is not supported by logical arguments which would lay a foundation for the mind-body union.

Weaknesses in Descartes' mind-body union arguments have led to a counter-arguments attempting to resolve the problem of "real distinction". Substance dualism was later discarded as an explanatory mind theory and new theories of mind replaced it in the 20th century. Other theories that came soon after substance dualism include "parallelism", a form of dualism which asserts that mind and body are related but there is no causal relationship.

Mind and body do not interact but simply run parallel alongside each other. Benedict De Spinoza was the main proponent of this theory in book two of the "Ethics" in 1649. He was reacting to the Cartesian dualism which was unable to demonstrate the connection between the physical and the mental domains. He claimed that the mind and the body relate but remain in separate domains which run parallel.

Occasionalism is a mind theory that flourished in the 17th century. This theory is exclusively associated with Nicholas Malebranche claiming that God puts ideas in the mind on the occasion of mind encountering other material objects. For example when we hurt our bodies, there is no process that leads to the feeling of pain. It is an occasion for God to put the feeling of pain in our minds. This theory has been considered laughable since it does not engage in a rigorous rational debate.

Substance dualism" associated with René Descartes made a turning point in the history of philosophy and Descartes has since been regarded as the father of mind-body dualism. Philosophical debates began in response to Descartes ontological distinction between the mind and the body and they are the basis of the current debate. The contemporary discourse on mind was initiated by substance dualism. Since the pre-Aristotelian period to the Cartesian time in the 17th century, the approach to the mind-body problem was dualistic in nature. The rational part of the soul or the mind was considered as distinct from the body.

Most of 20th century philosophers began a new way of looking at the mind as part of the physical world. This view came to be known as materialism or physicalism which discussed the immaterial part of the human (mind) as closely associated to the body or emerging from it. According to the contemporary debate, the functions of the mind are wholly dependent on the functions of the body. There are some divergence in various contemporary schools of thought on how mental events affect or are affected by the functions of the body.

Cognitive neuroscience which is that branch of neuroscience that deals with the problem of mind-body relation, like philosophy, has made attempts to explain the mind-body relationship basing on physical theories. Some of the findings of this discipline shed light on questions of mind-body relationship in the discipline of philosophy and confirm some principles in philosophy of mind. One scholar who has discussed this problem in neuroscience is Hans Selye who, in 1956 wrote a seminal work "The stress of life". His research was a bridge between the fields of psychology, physiology and pathology. He observed that when the body is under psychological stress, it responds with a series of biological and physiological changes (Selye, 2000, 244). Whenever the mind is subjected to certain adverse conditions, the body responds with physical signs indicating an imbalance in mental states. This showed a close relationship between the functions of the brain and the functions of the mind where the functions of the mind are affected by the condition of the physical body and the vise.

However, cognitive science does not exhaust all aspects of mind-body relation that are of interest to the study of philosophy. It does not handle issues related to *qualia*, the subjective qualities of perception and generally aspects that cannot be verified in physical terms. This makes cognitive science inconclusive (at least to philosophy) and outside the scope of this study. However, cognitive neuroscience provides empirical evidence of the relationship that exists between the mind and the body that can provide evidence to the findings of philosophy of mind.

Analytical discourse in philosophy of mind became popular in the 20th century with Gilbert Ryle's famous essay: "Concept of Mind" published in 1949. In this essay he introduced an approach to the study of mind known as philosophical or analytical behaviorism or just analytic philosophy where he announced that the only function of philosophy is to analyze concepts and ideas (Ryle, 1949, 61). Ryle's philosophy of mind was based on analyzing

human behaviour in order to understand the functioning of the mental domain. Ryle's approach was contrary to substance dualism which viewed the mind and the body as distinct substances. His arguments in analytical behaviorism were intended to prove that substance dualism is irrational and cannot be considered a practical mind-body theory.

Ryle argued for an integrated ontological mind-body unit claiming that substance dualism is a "category mistake", a mistake committed when we tend to describe two things as distinct when they belong to the same category (Ryle, 1949, 63). In the case of mind-body relationship, the (supposed) second category (mind) is included in the whole (body). For example when you describe the "president of Kenya" and "Uhuru Kenyatta" as two entities when "Uhuru Kenyatta" and the "president of Kenya" refer to the same reality. Ryle argued that mind-body dualism was a mistake that was grounded in Descartes' 'ghost in a machine' argument of real distinction (Ryle, 1949, 71).

Descartes's argument that the mind and the body are made up of distinct substances amounts to a category mistake since it is evident that the mind affects the body and the body affects the mind. The work of philosophy is to understand how the two function together as a system. The arguments of substance dualism are misleading to show that the mind and the body run parallel and have nothing in common. The philosophy of Ryle was intended to correct the mistake of substance dualism by demonstrating that the mind and the body amount to the same reality that make up the complex whole of the human being.

With Ryle and Wittgenstein's contribution to the mind-body debate in the 20th century, philosophers abandoned dualism and begun a new approach of viewing the mind as emerging from the body due to its nature to function alongside body. This view came to be popularly known as physicalism/materialism.

A new discourse on the nature and functions of the mind begun with two classic papers, one by Herbert Feigl "The Mental' and the Physical" another by J.J.C Smart; "Sensations and Brain Processes" published in 1958 and 1949 respectively. These papers showed the mind as closely associated to the physical domain in a way that the mind "emerges" or is "realized" by the brain in the physical domain, a contention known as "identity theory" or "central state materialism".

The identity theory is a materialistic reductive monism which asserts that the mind is just part of the physical body and is reducible to it. These theorists claim that "mental states" are merely "brain states" (Smart, 1958, 256). Mental states and physical states are identical and that physical states give rise to mental states. Accordingly, two physical systems which are indiscernible should instantiate indiscernible mental properties. All mental states are therefore identical to physical states that give rise to them such that every mental event is instantiated by a specific neural state at a time and the mind emerges from brain states. For example the sensation of pain emerges from specific complex neural states. According to the identity theory, pain is instantiated by an effect on the physical body that gives rise to a certain brain state which leads to the sensation of pain as a mental event. All systems that are capable of sensing pain will experience pain every time this kind of brain state is instantiated. Pain which is a mental event is experienced whenever neurons are stimulated in a certain way and (pain) occurs uniformly in all systems that have the ability to experience it.

The identity theory was applauded by scholars of the time as a breakthrough on the mind-body problem. The idea that mental states were merely brain states was impressive and seemed to answer the question of mind-body relation by identifying the mind with the state of the brain. However, it was short lived and was disqualified by Hilary Putnam's "multiple realization" argument and anomalous monism by Donald Davidson. Putnam's central argument was that mental kinds are abstracted from physical kinds (Kim 1998, 2-3).

The multiple realization argument challenges the possibility of mental states being identical to brain states and argues that mental states are distinctly realized from physical states. Multiple realizability shows that mental states are independent and can be sufficiently explained without accounting for the physical states underlying them. They can therefore be realized differently from different brain states of the same or different organisms including within non-biological systems such as computers (Kim 1998, 5). A computer based system can be programmed to sense "pain" yet it does not have brain states therefore "pain" that is realized in humans is realized distinctly from other organisms and computer systems. As well, pain that is realized in humans can be realized in a multiple number of ways. It can be realized from burns, pricks, cuts and many more causes of pain yet they are not identical. The pain that is realized in humans is realized by neural states which are distinct from the pain realized in mollusks which do not have neural states. This shows that mental states cannot be identical to their physical realizers since pain can be realized differently in different systems that are capable of realizing it, some of which do not have brain states or neural states.

Considering the arguments of this theory, it was evident then, that mental states cannot be identical to brain states due to multiplicity of realizations of the same mental states in various distinct systems (Kim, 1998, 15). Multiple realizability of mental states showed weaknesses of the identity theory and the identity theory was abandoned as a mind theory.

In the 1970s a new discourse on mind began which was predominantly based on the view that reality is composed of matter at different levels of complexity. The concept of "supervenience" was then introduced in this debate to demonstrate property covariation between the mental and physical domains.

Donald Davidson introduced a version of non-reductive physicalism that asserted that the mind is closely associated to the body and emerges from it. He however placed the mental domain on a different plane asserting that physical laws do not govern the relation between mental and physical events. According to Davidson, mental events supervene on the physical domain in such a way that there cannot be a change in mental properties without a change in physical properties. This relationship between the mental and the physical domain occurs "anomalously" without the intervention of physical laws. He claimed that mental events are physical events but they relate without laws hence referred to his theory as "anomalous monism".

According to Davidson, laws are theoretical assertions describing the behaviour of objects which are not present in psychology; therefore, there is no nomological requirement for the mind-body relation (Davidson, 1970, 268). He argued that every reality is physical but the mental domain is distinct from the physical domain since there are no laws in psychology that bridge mental properties with physical properties. Davidson's dualism through his argument of "anomalous monism" was intended to secure his position of irreducibility of mental properties. He maintained that mental properties are related to the physical domain but are in a different domain and therefore irreducible to physical base properties.

This view further damaged the identity theory which argued for connecting laws and reducibility of mental properties to their underlying physical properties.

The contemporary debate which began in the 1970s has been preoccupied with the quest of situating mind in a physical world. The main question in this debate is how minds which are non-physical exist in a world that is predominantly physical interact with material objects and cause physical effects. Anomalous monism, a theory put up by Donald Davidson introduced a new approach to the mind-body problem. This is a kind of mental-physical supervenience

that (for Davidson), the mind-body relation is not subject to physical laws but occurs "anomalously". The anomaly part of Davidson's supervenience is what Kim does not agree with. Kim believes that anomalousness cannot be applied to mind-body relationship since the world is predominantly physical and all reality should be subject to the laws of nature and should be able to be explained in physical terms.

Anomalous monism claims that mental events such as intentions have causal powers on the physical domain. Davidson argues that a cognitive event like intention (say, to get water from the refrigerator) can cause a physical event like moving our limbs towards the refrigerator. However he says that not all cognitive events of intention cause physical events depending on their complexity. He gives an example of mountain climber who holds a rope for another climber who is at the bottom. He, however, loosens his grip on the rope and the second climber falls and dies. He says here there is a complexity of mental events and intention cannot be the cause of death of the climber. The intention could have been to kill the climber or to save his own life. The event of the death of the climber cannot be determined in terms of intention. He therefore concludes that not all physical events are due to mental events that precede them since some are too complex to be associated to the physical events. Partly, the reason for some mental events not being identified with physical events is lack of physical laws connecting mental and physical events (Davidson, 1970, 208).

Davidson describes "Anomalous monism" thus he uses the term "anomalous" to mean that mental events as "outside the nomological realm [a-nomos-"not law" in Greek]. Mental events such as decisions, perceiving, remembering, and actions are not captured by physical laws in physics. He argues that laws are merely descriptions of the order in which events occur habitually. When we make the claim that one event causes another, we only describe the order in which these events occur. This should not be a reason to claim that this order entails a law in a strict sense. Davidson's philosophy of mind seemed appealing and capable

of explaining how physical and mental properties co-vary by "supervenience". The supervenience approach asserts that mental properties occur every time physical states are instantiated. The covariation is such that to change mental properties, you must make a change in the underlying physical properties. Davidson's argument of "supervenience" states mental and physical "events" relate anomalously (without bridge laws) since the mental domain is not subject to laws of physics.

Kim presented a philosophy paper in 1989 where he argued for supervenience based non-reductive physicalism. In this paper he argued, like Davidson, that mind supervenes on the body but it is not reducible to the physical domain. This stance had been influenced by Davidson's anomalous monism which seemed to adequately explain the mind-body relationship by supervenience and irreducibility. Kim later abandoned this stance in his later works and started arguing for a stance of supervenience based reductive physicalism. In his 1998 book, he made arguments which were mainly a critique of non-reductive physicalism, disintegrating it bit by bit in order to show that it is inconsistent and an unstable ground to lay a foundation of a mind-body theory.

Kim evaluates Davidson's "anomalous monism" and concludes that anomalousness and irreducibility in Davidson's view on mind-body relationship does not hold. He argues that mind, which exists in a world that is predominantly physical should conform to physical laws and should be reducible to physics. He introduces a kind of reductive physicalism based on "supervenience", the view that mental events depend (or supervene) on physical events and are reducible to them. Physicalism, for Kim, means that all mental states depend (or supervene) on physical states and are reducible to them.

Davidson had preceded Kim by using the concept of "supervenience" in 1970s to describe a physical and non-reductive mind-body relationship. Kim later took over the concept of supervenience and formalized it to apply to many aspects in philosophy of mind (Kim, 1998, 4). The concept of "supervenience" is used to express the relationship between mind and body and how mental events are instantiated with the occurrence of physical base properties at a time (Kim, 1998, 4). For example pain is instantiated whenever there is tissue damage and neurons (C-fibres) are firing to indicate damage to body tissues. Whenever a physical event is instantiated, a certain mental event (say pain) is also instantiated. Pain is said to supervene on the state of damaged tissue when neurons (C-fibres) fire to indicate damage to the tissue.

Kim's project in philosophy of mind, to a large extent, is to show inconsistencies in non-reductive physicalism/materialism as a mind theory in order to show that reduction is the only theory that adequately captures the mind-body relationship. Although Kim shares the concept of supervenience with some non-reductive materialists like Davidson, he does not agree with the latter's view that mental events are physical yet not reducible to their corresponding physical properties due to irreducibility's tendency to lead to "overdetermination" of mental and physical causes in a single observed effect. An effect is said to be "overdetermined" by its causes when a single event is instantiated or determined by but two distinct causes one of which would be sufficient to cause the effect. For example, a person is shot by a bullet and struck by lightning at the same time each of which is sufficient to cause death. Explaining the death in terms of the two causes, the effect is said to be overdetermined by the two causes.

David Papineau is a contemporary materialist who has discussed the mind-body problem and made a critique of Kim's supervenience reduction. He has attempted to find the connection between the mind and the brain as distinct entities. Papineau has argued for a reductive physicalism stance which is not based on supervenience that; mind is a "constituent" of the

body and therefore reducible to it. He attempts to explain why conscious states occur with brain states and states that mental causes are microscopic physical causes that are reducible to physical or can be explained as physical causes. He argues that mental events are capable of causing physical effects as long as the mental cause is made up of microscopic physical causes which can be explained in physical terms (Papineau, 2013, 263).

He further states that conscious mental occurrences have physical effects (Papineau 2013, 271) and therefore mental states have efficacy as long as they are viewed as "constituents" of the physical domain. His first premise states thus, mental states cause physical behaviour. Secondly, if we trace the history of physical effects, all have physical causes (Papineau 2013, 271). These two premises show the completeness of physics. He evaluates Kim's supervenience argument and concludes that the supervenience argument cannot escape causal overdetermination as long as Kim still maintains that the mind and the body are distinct and attempts to explain how they relate. The only way to avoid dualism between the mental and the physical domain is to argue that the two concepts, mind and body refer to the same thing. The moment one says that "I am a materialist but I don't know how the mind relates to matter" the person ceases to be a materialist and lapses to dualism. According to Papineau, this is the problem of Kim's interpretation of the mind-body relationship.

In his latest work published in 2005, he presents a systematic and comprehensive argument for physicalism with influential ideas on the mind-body debate. In this writing, he sets limits on what physicalism can explain in terms of the mind body relation. He identifies "consciousness" and "mental causation" as the main challenges to physicalism (Kim, 2005, 47). The two main questions here being the possibility of the mind having causal powers in a world that is fundamentally physical and if consciousness can have a physical explanation. In this work he argues that intentional mental events such as desires and beliefs are reducible to the physical domain. Exceptions are the subjective qualities of conscious perception *qualia*.

He however claims that some properties of *qualia* which are relational, particularly their differences and similarities manifest behaviorally hence reducible (at least in principle). This is the only way *qualia* exhibits causal efficacy. Currently, Kim argues for a stance known as "Naturalized Epistemology" where he argues that mind can be given a scientific explanation basing on scientific terms and theories.

With all these views on the mind-body relationship, this study seeks to appraise Kim's contribution to the mind-body debate and evaluate the central themes in his philosophy of mind particularly his arguments against non-reductive physicalism and his articulation of his version of reductive physicalism. A critical evaluation of Kim's philosophy of mind shows that he has made well-reasoned arguments against non-reductive physicalism which need to be considered as weaknesses of the latter. However, his approach gets limited and inconclusive when it fails to demonstrate that *qualia* and consciousness can be reduced to their physical components yet they exist in a physical world. .

Kim responds to Davidson's claim of anomalousness of mental-physical properties by claiming that it is not a subject of serious discussion in science. He claims that anomalous monism is outside the scope of scientific inquiry and the idea of anomalousness of mental properties has no base of establishing a meaningful philosophical inquiry. Kim, then, formulates a version of supervenience based reductive physicalism after pointing out inconsistencies in non-reductive physicalism which argues that any version of physicalism that is capable of explaining the mind-body should be able to demonstrate that mental properties are reducible to physics. Non-reductive physicalism, according to Kim, forms a mind-body dualism that leads to causal overdetermination.

Conclusion

Considering all the theories that have attempted to resolve the mind body problem, Kim argues that these theories have failed to capture the mind-body relation in terms of causation. Cartesian metaphysics, according to Kim, simply does not work. Theories that argue for irreducibility of mental properties to the physical domain lead to causal overdetermination where a single effect is determined by both mental and physical events. But the causal exclusion principle requires that the mental cause is eliminated from the causal chain to leave the physical cause as the determinant of the physical effect. Kim articulates arguments that highlight inconsistencies in non-reductive physicalism. He concludes that irreducibility leads to causal overdetermination and that supervenience and reducibility is the only viable approach to the mind-body problem. Kim's contribution to the mind-body debate shows that there is need to explain the mind-body relationship basing on principles of physicalism and mental properties should be reducible to the physical domain as is evident in his criticism of non-reductive physicalism.

CHAPTER THREE

KIM'S CRITICISM OF NON-REDUCTIVE PHYSICALISM

3.0 Introduction

This chapter examines the core tenets of physicalism and the arguments that Kim articulates to show inconsistencies in non-reductive physicalism. He, thereafter, formulates arguments in support of supervenience based reductive physicalism in order to show that the mental domain is necessarily reducible to the physical domain. He also argues that any form of reductive physicalism that successfully explains the mind-body relationship should be based on supervenience as a way of property covariation between physical and mental properties; how mental properties occur in relation to the occurrence of physical events. Non-reductive physicalism argues that all reality is made up of matter but mental properties exist in a separate nonphysical domain. It also argues that mental properties have causal powers and affect the physical domain causally. Kim articulates arguments that demonstrate that, irreducibility leads to causal overdetermination, the assertion that a single effect is determined and explained in terms of two causes, one of which is sufficient to cause the effect.

3.1 Kim on the Limitations of Non-reductive Physicalism

Thales argued that all reality is made of water. Democritus held the view that all reality is made up of atoms in the void (Herzogen, 2009, 232). Like Thales and Democritus, physicalism holds that all reality is physical and mental events are physical events or can be associated to them. In the debate on mind-body relationship, Kim holds the position of physicalism or materialism which asserts that mental properties occur whenever physical properties occur and therefore mental properties depend on physical properties. Mental events cannot exist alone in the absence of physical properties and do not cause physical effects in

the material world. The school of philosophical thought that attempts to find a place for mind, which exists and interacts with the physical world made up of predominantly material "things" when it is not a physical "thing" itself is known as physicalism or materialism.

Physicalism or materialism is the claim that the world comprises material entities that are, or can be explained in physical terms including functions of the mind. Physicalism that Kim subscribes to is based on the principle of mental-physical "supervenience." Mental supervenience can be summarized as follows: whenever an event or state of affairs in the physical realm is captured into the mental realm, what results as the mental form is a replica representation of the state of affairs in the physical world captured through perception. What is perceived determines what is represented in the mental (Kim, 1998, 39) and to make a change in mental properties; you must change the underlying physical properties.

Physicalism has two approaches; non-reductive physicalism, which argues that mental properties are irreducible to physical properties and remain in a separate domain. According to non-reductive physicalism, mental properties function without the intervention of the physical domain. Reductive physicalism asserts the contrary, that mental states are reducible to the physical states that give rise to them and are can be explained in physical terms.

Jaegwon Kim contributes to the contemporary mind-body debate which has, to a large extent, been shaped by physicalism. He begins by posing the question; how can the immaterial mind exercise causal powers in a world that is fundamentally material? (Kim, 1998, 4) He articulates his arguments by way of supervenience reductive physicalism and his question therefore is; are minds physically reducible? Most of his writings revolve around finding solutions to these questions. He argues for reductive physicalism where, for mental properties to have effect in the physical world, they should be identified or reduced to physical

properties or they should remain causally impotent (incapable of causing any effects in the physical domain).

Kim articulates his arguments on the basis of the "supervenience" argument (also known as "exclusion argument") the assertion that an effect can only be explained in terms of one sufficient cause -in this case, the physical cause which is primary to all forms of causation (Kim 1998, 12). The mental cause is considered epiphenomenal and causally impotent. He formulates the exclusion argument as defense of reductive physicalism against non-reductive physicalism. The exclusion argument is intended to show that the contemporary physicalism can only base on reduction of mental properties to physical and that mental properties are causally impotent. The key point here is that non-reductive physicalism is inconsistent and should be abandoned as an explanation of mind-body relation because of its dualist nature due to irreducibility of mental properties. He bases his objection on the view of the non-reductivists' claim of monism yet claim that mental events are not reducible to the physical domain. The irreducibility claim leads to overdetermination of physical events by mental events in a single chain of causation.

Kim divides mental phenomena thus; reducible properties including beliefs and desires and all intentional properties of perception. Secondly, irreducible qualitative properties of conscious perception, *qualia* which cannot be reduced to the physical domain and remain outside the realm of physical laws. He argues that all reality is made out of components of matter acting in accordance to physical laws. All reality, therefore, can be explained in physical terms (Kim 2005, 149- 150). He only gives two options on mental causation -One has to choose between reductive physicalism and dualism. Thus, either the mind or the body exist in separate domains (dualism) or mental events are reducible to their corresponding physical realizers and therefore causally impotent.

He concludes that cognitive properties like intentions and desires are functionalizable or can be associated to their corresponding physical realizers. He denies that mental properties are capable of causing secondary physical properties. The seeming mental realizers should be understood to be the efficacies of the underlying physical realizer's. *Qualia*, on the other hand, are unfunctionalizable and therefore irreducible and remain outside the physical domain. *Qualia* are therefore causally impotent and make no causal difference on the physical domain (Kim 1994, 173).

The basic idea in Kim's physicalism is that everything in the physical world that is capable of being explained in physical terms, including mental events can be reduced functionally, to physical properties that realize them. Exceptions are *qualia*, the felt qualities of consciousness. He therefore argues against the dualist nature of non-reductive physicalism that puts mental events in a domain distinct from the physical domain. He makes a systematic critique of non-reductive physicalism that shows inconsistencies in the latter.

3.2 Kim on Inconsistencies in Non-reductive Physicalism

Kim develops a version of reductive physicalism which seeks to demonstrate that mental properties including concepts, opinions, beliefs, intentions and decisions have causal power on physical events. His philosophy of mind is an attempt to make arguments against Donald Davidson's anomalous monism and non-reductive physicalism in general which are committed to these three theses:

- 1) Mind-body *supervenience*, the idea that mental events occur every time a physical event occurs, which secures the views of materialism
- 2) Mental-physical *Irreducibility*, the view that mental properties are not reducible to physical properties. Which secures non-reductivism

- 3) Mental Causal *efficacy*, the view that mental properties have causal powers on physical properties (Kim, 1998, 33).

Kim is committed to challenge these three claims of non-reductive physicalism; first, mental efficacy; the ability of mental properties to cause physical events. He disputes arguments put forward by non-reductive materialists including Hilary Putnam's' multiple realization argument (1967) and Jerry Fodor's argument (1974). These theses claim that any single mental event can be realized in a multiple number of ways. For example pain is realized by different physical states in different organisms. Pain is realized differently, in different physical and neural states in octopuses from humans. Therefore mental states cannot be identified with specific physical states and cannot be reduced to specific physical realizers.

Kim does not accept multiplicity of realizations; he argues that multiple realizability does not threaten reducibility of mental to physical events. Multiple realization can be explained by supervenience if the events in question are considered independently and therefore it does not disqualify reductive physicalism. His response to multiple realizability is that the instantiation of a mental property in any organism is due to the fact that the supervenience base property has been instantiated at the time (Kim, 1993, 34). After demonstrating that the principle of multiple realizability does not disqualify his type of physicalism, he uses three principles to attack non-reductive materialism doctrine that every particular event is physical yet mental events cannot be reduced to physical events:

1. **Criterion of every reality:** all reality has causal powers: *efficacy*
2. **Causal exclusion principle:** every effect has at most one complete causal explanation.
3. **Physical closure principle:** every physical effect must have a complete causal explanation in terms of a physical cause.

Kim challenges non-reductive physicalism's claim that mental properties have causal powers. He argues that every physical event must have an independent physical cause preceding it (physical closure principle). In other terms, every mental event must be accompanied by a neural activity in the brain which is physical. A physical cause instantiates a neural activity of neurons firing which occurs with a mental event and is captured in the physical domain. In this case, if the event has a physical cause, then it cannot also have a mental cause at the time since the physical event causes another physical event of neurons firing. If the event has both a physical cause and a mental cause, it will be a case of causal overdetermination (a single effect having two independent causes at the same time) and a violation of the causal closure principle. Therefore, for mental properties to exercise causal powers in the physical domain they have to be reduced or identified with physical events. Otherwise, mental events do not participate in the causation process in the physical world since these events are causally impotent and remain epiphenomenal.

Accordingly, mental properties can only be said to exercise causal powers on other mental states or on physical states if they are reduced to their underlying physical properties. Kim only recognizes physical causes in any case of a causation chain involving physical and mental property instantiation. The physical closure principle allows only physical causes to take part in causation. Mental causes are considered epiphenomenal hence inefficacious. From this argument, Kim attempts to dissipate the overdetermination challenge by associating causal properties only to the physical realm and making a claim for non-efficacy of the mental. This line of reasoning gives a condition for reducibility of the mental to the physical. The contention here is that, whenever a physical event or property is instantiated, it must have a prior physical cause instantiating it with mental properties supervening on the physical base properties.

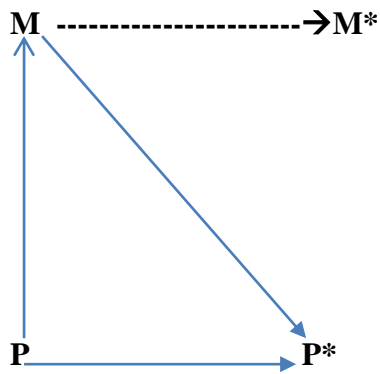


Fig.2.3.1 An illustration from Roche (2014) of causation where causal overdetermination is depicted. Kim expresses “ideal” causation involving mental and physical causes as $P \rightarrow P^*$ (no overdetermination). While non-reductive physicalism argues for causation as $P \rightarrow M \rightarrow P^*$ (which is seen as a case of Overdetermination).

In fig. 2.3.1 above, an effect may be said to be "overdetermined" when two supposed causes take part in causing a single effect. For example if P , a physical event, and M a mental event, are taken, both to be causes of P^* a secondary physical event. For overdetermination to occur, each cause must be "sufficient" to produce the effect in the absence of the other. For example, someone is struck by lightning and shot by a bullet at a time. Each is enough to cause the death of the person. Describing the death in terms of both causes is a case of causal overdetermination, assuming that both causes affected the death.

Kim invokes strong supervenience to explain the relation between the mental and physical domains. For example when we have a physical event P (as subvenient base), we have M as a mental event supervening on P . In this case, the physical effect P^* is "determined" by the physical subvenient cause P . The term *overdetermination* is used to refer to a case where a single observed effect has multiple causes any one of which would be sufficient to "determine" the effect. Consider a case where one single physical effect is determined by physical and mental base events at the time. This situation depicts a case of causal

overdetermination only if either the physical or mental base properties are each capable to independently cause the physical effect P^* . For example if two people throw stones and shutter a glass window at the same time. One stone is sufficient to shutter the window. Explaining the event in terms of the two stones is a case of overdetermination (a single effect having more than one cause).

From the diagram 2.3.1 above, P^* is overdetermined by the physical subvenient cause P and the mental event M . To avoid a case of Overdetermination, Kim claims we should eliminate the mental cause M by the exclusion principle to remain with the physical subvenient base P , as the cause of the secondary physical effect P^* .

In the cases of mental-physical causation, effects are said to be overdetermined when both mental and physical properties participate in causing one said effect. Non-reductive physicalism maintains that both mental and physical properties take part in instantiating a single effect since they exist in separate domains. Non-reductive physicalists argue for a kind of property dualism where mental and physical properties remain in separate domains yet the mental has physical characteristics due to supervenience. Here, mental events are said to overdetermine physical events in causing the effect.

Kim argues for supervenience of mental events on subvenient physical events where mental properties have to be reduced to physical properties. Mental causation, for Kim, is possible as long as the causation depends on the underlying subvenient physical properties. In Kim's arguments, he states that supervenience does not attain the state of a mind-body theory. It only states the nature of property covariance between the physical and mental domains and the interdependence between the two domains. This dependence indicates some deeper and more complex forms of dependence between physical and mental properties (Kim 1998, 14). This dependence is left to be explained by mind theory why supervenience has to hold.

Both non-reductive and reductive physicalism hold that reality is fundamentally physical and mental events can be explained in physical terms. However, non-reductive physicalism is committed to three principles thus; supervenience of mental properties to the physical, irreducibility of mental properties and causal efficacy of the mental domain. Kim argues that these three core principles of non-reductive physicalism taken together with some accepted principles of non-reductive physicalism lead to inconsistencies unless mental properties are taken to be causally impotent. He makes an analysis of basic principles of non-reductive physicalism to expose inconsistencies as follows.

The first principle is the causal closure principle according to which every physical effect has a physical cause. The second principle is the causal exclusion principle which asserts that every effect has at most one sufficient cause at a time. A problem arises when the mental cause is claimed to be efficacious thus violating the physical closure principle resulting to causal Overdetermination by mental events. Kim states that the physical cause excludes the mental cause's contribution to the resulting properties.

Referring to fig. 2.3.1 above, Kim argues that the only way a mental event M can cause a secondary mental effect M^* is by causing its supervenience physical base P^* . As a requirement for causal exclusion, either the physical cause p or the mental cause M should be eliminated as a cause of the physical effect P^* (to avoid overdetermination). The mental cause M is therefore excluded from the causes basing on principle of causal closure of the physical domain. As required by exclusion and causal closure principles, Kim states that non-reductive physicalism is faced with two options; either to do away with the causal closure principle or embrace epiphenomenalism of the mental domain.

Kim (1998) dismisses the possibility of mental causation by arguing that: suppose we have a mental property M instantiating another mental property M^* . This case is impossible given that causation only takes place among physical subvenient bases (according to the causal closure principle). In his view, the mental instantiations are like a shadow of a moving car which is at one point at a time at another at a different time but it is not part of the physical car hence it does not contribute anything to the motion of the car. Mental instantiations supervene on physical causes but are themselves causally impotent (Kim, 1998, 38-40). The supervenience thesis is stated thus; whenever a mental property M supervenes on physical property P , there should be a physical base property P at the time such that anything with physical properties P must necessarily have mental properties M at that time (Kim, 1998, 39).

3.3 Inconsistency in Non-reductive Physicalism

The main inconsistency in the core arguments of non-reductive physicalism emanates from the claim that mental properties are independent and irreducible to physical properties. This gives a dualism that needs to be reconciled in cases of causation for non-reductive materialism. In the argument for irreducibility, the mental cause is taken to be independent of the physical cause and is efficacious (capable of causing effects). How, then, is mental-physical causation possible. Kim attempts to solve this dilemma by the claim that the mental is epiphenomenal and does not take part in the causal process.

The Exclusion Argument against Non-reductive Physicalism

Michael Roche (2014) elaborates on Kim's arguments against non-reductive physicalism that are inconsistent; He demonstrates how Kim uses the exclusion argument to argue that non-reductive physicalism is inconsistent. The arguments of irreducibility proceed in two stages that contradict each other (Kim, 2005, 18).

An analysis of the arguments for irreducibility shows at one stage that the mental event M causes the physical effect P^* . At another stage, it argues that the mental cause M does not cause the physical effect P^* . The argument proceeds as follows: First, take instance if a mental property causing another mental property to instantiate at a given time. Take for example the feeling of thirst causing the belief that there is beer in the refrigerator. According to non-reductivist claim of mental efficacy, this kind of mental-mental causation is possible. But Kim argues that there are two possible reasons for the instantiation of the mental effect:

- 1) Because the mental event (thirst) caused another mental event (belief) to be instantiated at the time.
- 2) Because that physical cause (drying throat), which is the physical supervenience base is instantiated at the time (Kim, 1998, 39).

In the first case (1), the assumption is that the mental event M causes the mental effect M^* . In (2), basing on the supervenience hypothesis, M^* was instantiated at the time because its supervenience physical base (say drying throat) was also instantiated at the time. Kim concludes that the only way the mental event M can cause another mental event M^* is by causing its supervenience base property P^* . Since mental properties supervene on physical properties, as long as the M^* 's physical supervenience base P^* is present, the mental effect M^* will be there no matter the preceding sequence of events. In order to instantiate the mental event M^* you only need to instantiate its physical supervenience base P^* . Therefore the mental property causes another mental property by causing its putative physical supervenience base (Kim 2005, 39-30). In the second instance, the supervenience argument states that the instantiation of the supervenience base property P is sufficient nomologically to cause the occurrence of the mental event M . By the physical event P causing the mental event M , it also qualifies as the cause of the physical effect P^* .

According to the argument for irreducibility where mental properties have causal powers, the physical property P and the mental event M both cause the physical effect P^* the mental property M cannot be reduced to the physical domain. But according to the exclusion principle, no event can have more than one sufficient cause unless it is a case of causal overdetermination. To do away with the overdetermining cause, we have to exclude the mental cause M to leave the physical cause P . With reference to the causal closure principles, the mental event M does not cause the physical effect P .

From the two instances of Kim's arguments in defense of his version of supervenience above, there is an evident contradiction from the three main theses of non-reductive materialism: at the first stage, mental properties M cause physical effects P^* . At the second stage the mental cause M does not cause the physical effect P^* . With reference to Kim's principles of realization, exclusion and closure together with his subvenient causation and No overdetermination Kim concludes, therefore, that non-reductive materialism is inconsistent and cannot form a stable base in philosophy of mind.

No-reductive physicalism is faced by the problem of mental causation. This problem is associated with the claim of mental efficacy. It arises when the non-reductive physicalist claims that the universe is physically closed and causation happens in the physical domain and at the same time argues for efficacy of the mental domain. The question arises; if the physical event does all the work of causation, what work is left for the mental properties to perform? This violates the exclusion and the causal closure principles which require that causation happens in the physical domain. This problem arises when non-reductive physicalists distinguish physical causes and mental causes.

Physicalism requires that every physical effect must have a complete and sufficient causal explanation in terms of a physical cause. Kim articulates grounds for reductive physicalism by arguing against available mind-body theories. He argues that non-reductive physicalism cannot be a physicalism theory by its dualist nature. He claims that one can either be a physicalist or non-reductive, but not both (Kim, 1993, 351-2). He illustrates this as;

1. M causes M^*
2. P causes P^*

In 1 above, a mental property M instantiates another mental property M^* . This mental effect M is realized by a physical event P (say, a neural state) which causes another physical event P^* as an effect. This example shows that mental causation is impossible since it requires the intervention of the physical event P to complete the work of causation. He argues that the upper layer (1) involving only mental events does not work since it requires the help of the physical event P to complete the causal process. In the lower layer (2), P causes P^* without the help of M , but M cannot cause M^* without the help of P or without causing P^* . From this argument, it seems, the physical cause is all that there is. Mental causation is therefore unreal and mental efficacy impossible. This leads to the view that mental properties are epiphenomenal, a view that Kim accepts basing on the dictum that "to be [real] is to have causal powers" (Kim, 1993, 347). This dictum makes non-reductive physicalism self-contradictory.

3.4 Kim's Critique of Searle's Biological Naturalism

John Searle asserts that "The famous mind-body problem... has a simple solution". (Kim, 1995, 189). He claims that the solution is that mental processes are mere features of the brain. The solution is that mental processes are caused by neural processes in the brain and are

themselves functions of the brain. This stance is known as the "biological naturalism" which views mental functions as biological phenomena just like digestion and reproduction (Kim, 1998). According to this view, mental phenomena emanate from biological phenomena of brain processes and therefore physical features associated to the brain. According to biological naturalism, the mental domain is independent of the physical domain and irreducible but it is efficacious.

Kim concurs with Searle that the mind-body problem could have a simple solution but this solution will not be found in biological naturalism unless Searle accepts that the mental events "supervene" on physical (neural) events. Searle's biological naturalism argues that causation can be reduced to a biological function of "neurons firing" simultaneously with the instantiation of mental events. This line of argument leads Kim to argue that if "neurons firing" equates to mental causation, then this would lead to causal overdetermination where a single physical event is determined by neural and mental causes.

Mental properties, according to Kim, would rather be equated to the physical actions of "neurons firing" and the mental activities would be identified or reduced to physical causation and therefore mental properties are causally impotent. For example the mental feeling of "thirst" can be equated to neurons firing where the feeling of thirst is equated to a set of neuron arrangements and moving of limbs also equated to another set of neurons firing. This shows that mental properties are epiphenomenal and supervene on the physical properties of "neurons firing" which means that the physical activity of "neurons firing" completes the work of causation. What, then is the role of mental properties in this chain of causation? This leads to the problem of causation which seeks to answer the question; if causation is completed by the physical cause, what is the role of mental properties in a chain of causation?

What Searle takes to be mental causation, Kim argues, can be explained in physical terms with reference to "neurons firing" otherwise it leads to causal overdetermination when we consider mental causation independent of the physical process of neurons firing. Ideally, Kim argues that Biological Naturalism is consistent with reductive physicalism unless its arguments lead to overdetermination of effects of neural events and mental events.

According to Kim's supervenience argument, if mental processes can be equated to physical processes of neurons firing, then mental processes can be identified or reduced to physical processes. Therefore biological naturalism is compatible with reductive supervenience physicalism as long as it does away with irreducibility and mental efficacy. However Searle also argues for existence of mental properties independent of physical properties which are causally efficacious with reference to intentional properties; beliefs and desires. For instance, a certain neural property causes a mental property "pain" (neurons firing) causes another neural property "desire for aspirin" (neurons firing) which is a mental property with a physical base of neurons firing. According to Kim "pain" which is a mental event can be equated or reduced to the physical process (neurons firing) given that whenever pain is instantiated; a physical process of neurons firing accompanies it. What then is the work of the mental event that accompanies the physical event of neurons firing?

Searle's biological naturalism takes properties studied by cognitive neuroscience namely computational properties abstracted from biological nature of cognitive agents (Kim, 1995, 189).). This is evident from his claim that neural processes are initiated by mental processes which accordingly, play a role in the process of causation. This is evident from his claim that "desire for beer" leads to the belief that "there is beer in the refrigerator". This is taken to be mental-mental causation which leads to the causation of limbs moving towards the

refrigerator to get the beer which is mental-physical causation. In this case, Searle argues, intentional events of the mind that; "there is beer in the refrigerator" causes limbs to move.

For Searle, this is justification that mental properties are capable of causing other mental properties and physical properties like moving limbs. However his claim of irreducibility of mental events to physical underlying properties lead to a form of dualism that leads to causal overdetermination. The only way Searle would escape overdetermination, in Kim's view, is to invoke the supervenience concept in a reductive form and accept that mental events dependent on physical events hence are causally impotent. This line of argument is necessary for Searle's biological naturalism in order to escape from property dualism which leads to overdetermination.

Kim discredits biological naturalism on the grounds that mental-physical relationship is not based on the supervenience model of property covariation. It is necessary that biological naturalism should acknowledge supervenience to avoid overdetermination of causes which makes it inconsistent. Searle's argument for mental-mental causation according to the requirements of supervenience is a violation of the physical closure principle according to which causation only takes place in the physical domain.

The mental domain, according to this principle, is causally impotent since it exists outside the physical domain where causation takes place. According to biological naturalism, every mental phenomenon is caused by a neurobiological phenomenon. In this case, a mental effect M^* is caused by a neural property P^* . It follows that the mental effect M^* was instantiated by both the physical cause P^* and the mental cause M . We conclude that the instantiation of the mental effect M^* is causally overdetermined by the physical and the

mental causes. Kim concludes that mental-mental causation in biological naturalism is overdetermined.

Kim's critique of biological naturalism is based on their assertion that mental events such as "pain" cause other mental events such as "desire for aspirin". This is mental-mental causation which is inconsistent with biological naturalism's claim that mental properties are caused by neural functions which occur in the physical domain. What is the work of the mental properties in this chain of causation if the physical domain completed the work? This line of argument leads to causal overdetermination and a violation of the physical closure principle. Kim suggests that Searle should adopt the identity theory according to which mental events are identical to physical events which would clean up the mess in biological naturalism. Otherwise, Searle should accept that mental properties are causally impotent and supervene on physical properties. If Searle accepts that higher level states are causally impotent, then there would be no threat of causal overdetermination between the physical and the mental domains. Kim therefore, dismisses Searle's claim that there is a simple solution to the mind-body problem which is found in biological naturalism.

Summarily, Kim attacks Searle and Fodor's arguments for irreducibility of the mental. First, he attacks Searle's argument in the "Rediscovery of Mind" which roughly asserts mental processes are functions of the brain and therefore a physical biological function. Searle believes that mental events have causal powers particularly the causal powers of consciousness which enables organisms to affect the world. In response to Searle, Kim argues that if we have, for example, a mental event M causing another mental event M^* .

According to biological naturalism, every mental phenomenon is caused by a neural biological phenomena, then M^* is caused by a neural property P^* . According to this argument from biological naturalism, the mental property P^* was caused by both the mental event M and the physical base property P^* . In this scenario, the instantiation of M^* seems causally overdetermined by M and P But Searle objects to overdetermination and claims that the same system is described at different levels (Kim, 1993, 48). Searle does not convince Kim that the state of affairs depicted in biological naturalism is not a case of causal overdetermination. He rather makes a claim that mental properties occur simultaneously with neural properties and therefore cannot overdetermine each other. Kim finds fault in biological naturalism's dualistic nature which goes against the causal exclusion principle and makes the claim that biological naturalism is compatible with his form of reductionism only if Searle accepts reducibility of mental properties.

With these claims in mind, it is evident that supervenience, which is also known as the causal exclusion principle which requires reduction may not go well with those who hold non-reductive views. For mental causation to take place, reduction must occur. From Davidson's argument, for mental efficacy while arguing for physicalism he calls anomalous monism, shows evidence of the exclusion problem. Kim would advise Davidson to give up mental efficacy and accept that mental properties are reducible to physical properties in order to overcome the causal exclusion problem.

Conclusion

Basing on the arguments that Kim has advanced against non-reductive physicalism, it is explicit that non-reductive physicalism is based on inconsistent claims. First, the claim that mental properties remain in a separate domain and are capable of causing physical effects lead to causal overdetermination.

Secondly, non-reductive physicalism is based on two views that contradict; the claim that all reality is made up of material things contradicts the claim that mental properties (which are immaterial) have causal effect in the physical domain. In order to do away with these problems that are facing non-reductive physicalism, Kim recommends that they should give up mental efficacy and irreducibility and embrace supervenience. From Kim's arguments against non-reductive that have been discussed in this chapter, Kim has disintegrated the core tenets of non-reductive physicalism demonstrating that non-reductive physicalism is inconsistent and incapable of addressing the mind-body problem.

CHAPTER FOUR

AN EVALUATION OF SUPERVENIENCE REDUCTIVE PHYSICALISM

4.0 Introduction

This chapter evaluates Kim's arguments that expose inconsistencies in non-reductive physicalism in order to examine if his arguments are justified. It also critiques Kim's arguments for supervenience based reductive physicalism in order to weigh their successes and failures in explaining the mind-body relationship. This chapter also identifies the limits of supervenience based reductive physicalism in explaining the mind-body relationship. The central concern here is whether Kim's supervenience based reductive physicalism is capable of accounting for the subjective felt qualities of conscious perception, *qualia*.

4.1 Examining Kim's "No overdetermination" Argument

Overdetermination in causation is a situation where two causes are said to determine or generate a single effect. An effect is said to be overdetermined by causes when a single effect is explained in terms of two causes which are independent of each other and each of the causes is capable of generating the effect alone. For example, if two people throw stones to shatter a glass window, explaining the cause of the shattered window in terms of the two stones is a genuine case of overdetermination since each stone is sufficient to generate the effect alone.

Referring to the mind-body relationship, an effect is said to be overdetermined when we claim that mental properties are capable of participating in causation and still argue that causation happens in the physical domain. In this case, both mental and physical properties cause the same effect hence the effect is said to be causally overdetermined. Non-reductive physicalism argues for mental efficacy, the claim that mental properties are capable of

causing physical effects while Kim's reductive physicalism argues for mental epiphenomenalism or impotence, the claim that mental events are incapable of causing physical effects. In the case of non-reductive physicalism, in a chain of causation involving mental and physical causes, the mental cause has causal efficacy, the ability to cause secondary physical properties. On the other hand, Kim's exclusion argument requires that the mental cause be excluded in favour of the physical subvenient cause according to the causal exclusion principle. The exclusion principle requires that in any case of causation, the physical cause excludes the mental cause which is epiphenomenal. This, according to Kim, solves the problem of causal overdetermination. Overdetermining causes, accordingly, (if they will have causal efficacy) must be independent of one another and each should be able to cause the effect alone. From Kim's position, the mental is dependent on the physical cause and therefore cannot overdetermine it.

Kim's denial of over determination depends on the causal exclusion principle which he takes as analytic truth. He does not give arguments to show why the exclusion principle holds and does not give an explicit explanation why mental properties should be considered causally impotent yet it is common sense that intentional events like desire and belief cause our bodies to move.

From this argument for 'no overdetermination', Kim invokes his two core principles; the physical closure principle, that causation is limited to the physical domain and that the mental is causally impotent and dependent on the physical cause. Kim uses the causal exclusion principle to justify his claim of causal impotence of mental properties. This principle states that a single event cannot have more than one sufficient cause unless it leads to causal overdetermination. With these two principles, Kim claims to have made his argument for 'no overdetermination'. However, he does not satisfactorily convince those who hold the non-

reductive physicalism stance with valid arguments, he only states that the mental domain depends on the physical domain and should be reduced to it under the two principles.

The exclusion argument however does not give preference on which cause should be eliminated between the mental and physical cause. In this case, Kim ought to give stronger reasons for eliminating the mental cause in preference for the physical cause which should extend beyond the two principles. He seems to take the two principles as intuitive and self-evident truth which does not come out clearly from his reasoning. Non-reductive physicalism therefore cannot be challenged basing on these principles to give up their stance and accept reduction. The solution to their problems can be found elsewhere but not in Kim's denial of overdetermination.

In order to express his "no overdetermination" argument, Kim gives an illustration he calls "the possible world" (which will be referred to as *PW* in this research). In order to illustrate *epiphenomenalism* of mental properties, he introduces an imaginary world where *M*, a mental event occurs without the supervenient physical base *P*. In this world, mental events exist without emerging or depending on physical events. For example, pain occurring without the physical base of damage to body tissue and neurons firing (1998, 45).

Kim's possible world seeks demonstrate that such a world where mental properties occur without physical properties is impractical and such a world does not logically hold. If the mental effect *M** appears without its physical base *P*. What instantiates the mental event *M*'s occurrence without the supervenience base *P*? The materialist would argue that it was instantiated by a prior physical event *P* with reference to the two principles, the exclusion and the closure principles. Mental efficacy means that the scenario in the possible world of mental properties occurring without physical base properties is possible which is impractical.

The possible world illustration shows that; for a mental event to occur there must be a physical base property on which it must supervene. Otherwise, it will be a violation of the physical closure principle which requires that causation takes place only in the physical domain and the causal exclusion principle which requires that all physical effects must be instantiated by physical causes. Where does the event *M* come from given that there is no physical event preceding it? Referring to the argument of the possible world where a mental event *M* occurs without the physical base property *P*.

Kim argues that; without the supervenience base, the causal chain becomes incomplete. In a chain of causation, the physical base *P* is necessary and prior to the instantiation of *M*. In another set of causation involving a mental event *M* and a secondary physical property *P**, the mental event *M* cannot be said to be the cause of the secondary physical effect *P** since it was evident in the first instance that the mental event *M* could not stand alone without the physical subvenient base *P*. It will follow logically that the instance of *P** was not instantiated by *M* but by *P*, making *M* epiphenomenal. If we accept that in *PW* mental properties cause physical effects, then it is a violation of the causal closure principle where mental and physical domains interact mysteriously. In Kim's argument, he fails to recognize the possibility of *M* supervening on a supervenient base other than *P*. As well, the possibility that *M* does not occur in *PW*.

The "possible world" argument makes clear Kim's argument that mental and physical properties relate by supervenience where mental events depend on physical properties. The relationship between the mental properties is such that there cannot be an instantiation of a mental property without an underlying physical event on which the mental event supervenes (Kim, 1998, 46). However, he does not justify his claim that *PW* is nomologically impossible

but possible in physical terms even though supervenience fails in *PW*. It is my argument that if *PW* is not metaphysically possible, then it cannot be physically possible either.

The idea that Kim is trying to point out by causation in *PW* is that; if mental properties cannot cause physical properties in the imaginary world *PW*, then mental properties are epiphenomenal. And if mental properties are causally impotent in *PW*, then they cannot overdetermine physical effects in the real world. He juxtaposes *PW* with the actual world by claiming that since the mental cause *M* may be epiphenomenal in the possible world then it is causally impotent in our world. His arguments are however inadequate to justify the exclusion of *M* in the causal chain. This case of arguing for the elimination of the mental cause *M* is exceptional considering that Kim's style of argument is always complex and backed by principles that are seen to be controversial. He has always appreciated stronger arguments than this, which he does not do in this case of overdetermination. He would otherwise give an argument for *M*'s dependence on *P* in instantiating *P** as well as a satisfactory argument for the claim that the mental event *M* is causally impotent in *PW* and therefore epiphenomenal in the actual world. It is inadequate for Kim to exclude the mental cause by simply noting that it depends on the physical cause *P*.

Common sense tells us that mental events cause other mental events and physical events. For example the beliefs we have fixed over time enable us to act as well as form new belief from the old ones. For instance the belief that cold drinks quench thirst makes us believe that a cold beer will quench our thirst. This is mental-mental causation where one belief causes another. On the other hand, the belief that there is beer in the refrigerator makes our limbs to move towards the refrigerator to get a cold beer. This is mental-physical causation which Kim argues that it is impossible. He argues that if we trace the origin of the belief, we will find physical efficacies that caused the belief in the physical domain. The physical histories

that Kim argues give rise to beliefs in the mental domain should be understood to refer to knowledge that is acquired through a complex mental process that goes beyond mere physical processes. To deny that knowledge by which we fix our beliefs extends beyond physical events contradicts the possibility of acquiring knowledge which happens in the mental domain. Without knowledge, then the human would be reduced to a zombie who will only respond to instantaneous physical stimulation.

From the argument of the possible world, Kim argues that there are no instances where mental properties are capable of causing any effects. His intention here is to make the argument that mental properties are causally impotent which is vital for his supervenience argument. The only way supervenience based reductive physicalism can hold is first, to demonstrate that causation does not occur in the mental domain and second, to show that since mental events are causally impotent, the reduction is imminent. To make the argument for mental impotence, Kim juggles between the exclusion and closure principles.

4.2 The Exclusion Principle and Causal Overdetermination

The causal exclusion principle asserts that in any causation involving a mental and a physical cause, the mental cause is excluded in as a cause of the effect. This principle is backed by the physical closure principle which asserts that causation only takes in the physical domain. Kim uses the principle of exclusion to show inconsistencies in non-reductive physicalism by arguing that effects in non-reductive physicalism are overdetermined. This principle has been stated differently by different philosophers of mind and Kim formulates his version by arguing that physical effects must have sufficient physical causes. In this case, the mental cause is automatically excluded from the causal chain since it does not qualify as an sufficient cause. This version of the exclusion argument would not be accepted by those who uphold irreducibility since they argue for mental efficacy.

The argument of physical closure asserts that mental events cannot cause physical events without overdetermining them, thus; every physical cause must produce an effect which is also physical since mental events are causally impotent and do not take part in causation.

Through the exclusion principle together with the causal closure principle Kim attempts to dissipate overdetermination and to make arguments for epiphenomenalism of mental properties.

Evaluating these two principles of exclusion and closure, Kim does not dispute the fact that events which are not independent of each other can nevertheless overdetermine an effect causally. For this reason, he argues for mental impotence or epiphenomenalism. He does not clearly state if the mental cause M is sufficient to cause the physical effect P^* or if the physical cause P is sufficient to the physical effect P^* . He only claims that the mental cause M is not the cause of the physical effect P^* and that the mental event depends on the physical event. But for "Exclusion" to apply to overdetermination, the mental and the physical cause, each needs to be a "sufficient" cause of the physical effect P^* at a time t . Kim invokes the "no overdetermination" and exclusion arguments to prevent his critics who would easily attack the former.

He claims that to reject the "no overdetermination" claim is to violate the principle of causal closure which states that causation should have a physical causal explanation. He expresses this point by reference to the argument of possible world PW where a mental event occurs without a physical subvenient cause (Kim 1998, 45). In this case, the physical effect P^* occurs without the occurrence of its supervenience physical base P at a time t , which violates the causal closure principle. The "possible world" argument does not hold with supervenience physicalism which requires that mental events conditionally supervene on physical events. His introduction of the possible world aims at illustrating that mental events cannot

instantiate physical events without the intervention of subvening physical properties. After demonstrating that causation requires reduction, Kim goes ahead to articulate his supervenience argument.

The supervenience argument as stated by Kim does not exhibit a stable foundation on which to argue that mental properties are causally impotent. First, he uses forceful arguments to make us believe that the mental domain is epiphenomenal. For example, he uses the exclusion and the closure principles to prove that mental properties do not participate in causation. He does not make efforts to convince us that the two principles are intuitive and should be adhered to when making reference to the mind-body relation. The two principles are forcefully inserted in his arguments in order to set ground for his argument of mental epiphenomenalism without which he cannot make his basic arguments for supervenience. If the two principles are invalidated, then the entire project of mental supervenience is irrevocably damaged.

The supervenience argument can easily demonstrate how reality is structured in terms of complexity from the simplest to the most complex existences. For example it may be used to refer to the composition of nature beginning from objects to molecules to atoms to ions and to the simplest forms of existence. This can be applied in science to study how structures of reality relate to each other. This kind of structure becomes complex when applied to the study of philosophy unless we naturalize it to conform to the requirements of physics. Kim attempts to naturalize the study of mind particularly considering his response to Donald Davidson's anomalous monism that: since there are no laws in psychology, natural laws apply to the mind-body relationship.

The two principles that are central to Kim's arguments demand that the study of mind should be based on physics and its requirements in terms of laws. If we attempt to apply physical laws to metaphysics, we tend to lapse to physical science. Kim's failure to account for *qualia* and why it fails to conform to his theory of supervenience makes us believe that mental properties cannot be captured by physical laws and there should be exceptions when physical laws are invoked to explain the mind-body relationship.

Kim argues that mental properties are generated by physical properties and are themselves bits of matter organized in a special way (Kim, 1998,36). In this case, mental properties are identical to physical properties according to this claim. He however diverts from this view and discusses mental properties as having a unique composition from those of the body. This amounts to a form of dualism between the properties of matter and those of mind. This property dualism brought about by Kim's distinction between mental and physical properties give rise to the "exclusion problem" which requires an explanation of the role of mental properties in causation of physical properties. *Qualia*, which exist in the mental domain cannot be captured by the supervenience argument because it exist outside the scope of supervenience that can be explained basing on the principles of philosophy. The view that reality is structured in layers of complexity by way of supervenience can be argued from perspectives of science based disciplines which undertake quantitative analysis of matter. The physicalism theory cannot adequately argue from the stance of supervenience since the requirements of metaphysics limit the study of mind to theory and conceptual analysis.

Brandon Carey (2011) argues that the exclusion problem (if physical effects have physical causes, how are mental causes possible?) shows the impossibility of having a mental cause alongside a physical cause. This shows that the mental and physical properties are identical and should not be discussed as distinct entities. To deny that the two are identical is to deny

the causal completeness of physics the claim that every entity in the spatial-temporal world has a physical explanation and behaves in accordance with physical laws. Mind, which exists in the physical world, should belong to the domain of physics. From Brandon's argument, the exclusion argument requires that the physical cause completes the causal process without the intervention of mental events. In this case, if mental events have to participate in causation, they have to be reduced to physical events.

The kind of reduction that is needed here is not that based on supervenience but that which is based on the contention that mental properties are physical properties by virtue of the mental domain being a constituent of the physical domain. Mind is therefore taken to be part and parcel of the physical domain. In this case they are related by virtue of being components of the same thing and therefore need not have an explanation on how they relate. Take for instance, Donald Trump and the president of the United States. The two refer to the same thing and therefore there is no need to explain how Donald Trump and the president of the United States relate to each other once we accept that the two refer to the same reality. If we contend that mental properties are physical properties, like Kim believes, then there is no need to establish how they relate and the problem of *qualia* will not arise. Causation, then, will be completed in the physical domain only if mental events are reduced to the physical domain and given a physical explanation. Brandon's argument is basically that if we accept that mental events are identical to physical events, then the exclusion problem does not occur. The exclusion problem roughly states that if completeness of physics requires that causation should be completed in the physical domain, how can mental properties be efficacious? If Kim adopts this approach then he will be able to solve the problem of overdetermination in his materialism and address the problem of *qualia*.

Kim's arguments become controversial when he invokes the exclusion, closure and "no overdetermination" principles without explaining how mental properties are epiphenomenal yet he argues that mental events comprise of bits of matter. He argues that mental causation is effected by the underlying physical properties yet distinguishes mental properties from physical properties thus arguing for a form of (property) dualism. From this argument, mental events, being physical events (as Kim claims), necessarily participate in causation in the physical domain. To make the claim of causal impotence of mental properties may seem to contradict Kim's earlier claim that mental properties are made up of bits of matter (Kim, 1998, 9).

His claim would be simpler if he would do away with these principles and only maintain that mental events depend on physical events and that the mental domain constitutes the physical domain. To argue that mental events are constituents of the physical domain, he will do away with property dualism that prevent from demonstrating that the mind is made up of physical constituents. This property dualism which is so evident in Kim's physicalism argument leaves chance for non-reductive physicalists to attack Kim's arguments on the grounds that effects in his supervenience based reduction are overdetermined.

The causal closure principle asserts that physical effects can only have physical causes. In other words, any causal explanation given for a physical effect should be only in terms of a physical event. What this principle basically means is that causation only takes place in the domain of physics and all causal explanations should be limited to this domain. Mental properties are therefore outside the domain of physical causation and therefore epiphenomenal. It is important to note however, that the causal closure principle does not claim that the physical domain is all that there is. It does not make claims against mind-body dualism but acknowledges the existence of the mind in a different domain. It does not claim

that there are no other causes besides physical causes for that matter. Causal closure principle does not deny the existence of mental causes and does not challenge substance dualism as long as mental causes do not meddle with physical causes [in the physical domain]. Descartes' interactionism in this case is precluded by the physical closure. We can therefore take the exclusion principle not to favour the mental or the physical but neutral.

Kim does not agree with cognitive neuroscience which shares Searle's views in "biological naturalism" that mental functions are biological phenomena just like digestion and reproduction (Kim, 1998, 47). According to this view, mental phenomena emerge from biological phenomena of brain processes and therefore physical features associated to the brain. According to biological naturalism, the mental domain is independent of the physical, irreducible and causally efficacious. Kim rejects this view on the basis that it leads to causal overdetermination. He argues that the argument that "mental properties are biological functions" is compatible with his argument for supervenience. If mental properties are physical features like any other biological functions like digestion, then mental functions should be reducible to physically. The claim that mental properties are irreducible and are causally efficacious depicts a situation of overdetermination where the mental cause overdetermines the physical cause.

The only way biological naturalism can escape causal overdetermination is to invoke the concept of supervenience the theory in order to argue that mental properties relate to the physical domain by way of supervenience and are reducible to physical properties.

Searle's reply to Kim defends biological naturalism by arguing that Kim's understanding and interpretation of the main tenets of biological naturalism is misguided. He wants Kim to understand that the events described by biological naturalism are spontaneous and do not occur over time as Kim seems to claim. Mental and physical events occur at the same time

and at different levels of structured causation hence they cannot overdetermine each other (Searle, 1972, 257).

This kind of mental-physical causation should be understood to refer to the same system being described at different levels. It should be noted that Searle's discussions on mind in biological naturalism does not involve the term "mental states" which would mean that they are reducible to physical states. He rather uses the term "conscious states" which are in the category of *qualia* and are not reducible to physical states. Conscious states are subjective qualities experienced by an individual and cannot be reduced objectively. The assumptions that Kim has on biological naturalism are, therefore not entailed in Searle's arguments in biological naturalism and do not offer a challenge that would make Searle give up his stance of biological naturalism.

Finally, Kim claims that *qualia*, which is the subjective conscious perception of felt qualities like colour remains outside the physical domain and makes no causal difference (Kim 1994, 173). But physicalism requires that every entity in the physical world must have a physical explanation. Can *qualia*, have an explanation outside the physical world? On his claim that *qualia* makes no causal difference, we can refer to Frank Jackson's (1998) influential thought experiment which roughly argues that; a certain person named Mary confined throughout her lifetime to a room which is painted black and white. She watched a black and white TV and read black and white books. She studied neural science and learnt everything about colour and how it is produced by rays of light. She is then released from the room to encounter the real world of colour. She is able to learn new things about colour by experiencing colours such as red. The question then is: if physicalism is true that mental events are physical events, how is Mary able to learn something new after perceiving colour? The mental events that are contained in *qualia* should have made a causal difference in Mary's experience (Jackson,

1998, np). In this respects, Kim argues that some properties of *qualia* which are relational particularly their differences and similarities manifest behaviorally hence reducible in principle. (Kim, 2005, 57).

This thought experiment shows that mental events should be grounded in something other than physical events that needs to be investigated. If this makes sense, then the concept of supervenience fails to conclusively account for mental events and supervenience physicalism fails to account for the mind-body relationship. If mental events are physical events, then Mary should have been able to learn everything about four by simply observing the objects that were presented to her in black and white. What accounts for the new thing that Mary learnt after experiencing the world of colour? This argument by Frank Jackson is aimed at attacking physicalism's plausibility. He argues that a world that is minimally a duplicate of the real world should also be a mental duplicate of it (Jackson, 1998, np). This argument attempts to show that this duplicate world should have material objects subject to physical laws like in the actual world. In such a world supervenience holds. But in a world with Cartesian minds, supervenience does not hold. For supervenience to hold, the duplicate world has to exhibit all the tendencies of the actual world.

Conclusion

From the foregoing, we can conclude that Kim's physicalism (heavily) depends on the physical closure principle which asserts that causation is limited to the physical domain. This principle is intended to support his argument of mental impotence. However, he does not give justification why this principle is necessarily applicable in causation involving mental properties. The physical closure principle is used here to support Kim's argument for mental impotence but causes the problem of *qualia*, where the subjective felt qualities of conscious perception are not accounted for by his type of physicalism. *Qualia*, which is not reducible to

the physical domain yet exists in the mental domain is not captured by supervenience based reductive physicalism. If supervenience is plausible, then it should demonstrate that *qualia* is reducible to the physical domain since it exists in a world that is predominantly physical. Kim's arguments for impotence of the mental domain seem to be attempts to make us believe that mental events play no role in causing effects in the physical world. However, his arguments are forceful and do not give rational grounds on which he bases his arguments for mental impotence. Kim therefore does not successfully challenge non-reductive physicalism due to his version of physicalism's failure to account for *qualia* and therefore supervenience based reductive physicalism does not hold.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

This study set out to examine Kim's attempt to solve the mind-body problem. Kim has argued that mental properties supervene on physical properties and are themselves causally impotent. Causation, according to this argument, only occurs in the physical domain. However the study established that Kim's Supervenience based physicalism has failed to demonstrate that *qualia*, the subjective aspect of conscious perception is reducible to the physical domain. This failure of supervenience based physicalism to account for *qualia* has led this research to argue that Kim's theory on the mind-body problem is inconclusive and incapable of explaining the mind-body relation.

In order to account for *qualia*, there is need therefore to demonstrate that mental causation is possible as long as the mind is considered as a constituent of the body. In this case, it will be possible for *qualia* to take part in causation. The failure of supervenience can be seen to be grounded in property dualism which comes out clearly when Kim depicts the mind as distinct and attempts to look for their union by invoking the closure and exclusion principles. This problem of *qualia* can only be addressed if we describe the mind and body as one functional system which is complementary and of the same nature.

Since mind exists in a world that is fundamentally physical, it should be functional and able to affect the objective world. Owing to its immaterial nature, it needs the physical body to which it is closely associated. The possibility of mental causation can be demonstrated by; first saving mental efficacy by appealing to human nature. The fact that the human person is capable acting according to moral values that emerge from mental faculties including neural actions such as beliefs, desires, intentions and decisions which are products of pure thoughts shows that the mental domain is efficacious. Mental events, therefore, can exist in the

physical world and physical actions can be caused by mental processes. Through these involuntary acts we are able to affect our surroundings and perform activities. Secondly, the possibility of acquiring knowledge shows the ability of the mind to form beliefs and have intentions that originate from it. Human knowledge depends on perception, reasoning and memory without which the human is incapable of acquiring knowledge. Mental causation can be easily associated to the physical activity of neural functions which occur simultaneously with mental events and can be said to be similar in terms of action. Mental properties, in this case, can be said to be constituents of physical properties and participate in causation if considered together as the same ontological unit.

Kim's arguments are limited within the scope of the causal exclusion and the causal closure principles. His understanding and interpretation of mental causation is confined to these two principles which are the core principles in his physicalism. The causal exclusion principle asserts that every effect must have a complete explanation in terms of one sufficient cause. For this reason, to explain an effect in terms of two sufficient causes is a case of causal overdetermination. Therefore, any effect experienced in the physical world should have a complete explanation in terms of a physical cause. He justifies this by the claim that the exclusion principle is "analytic truth" and appears to be intuitive (Kim 2005, 51) and should be considered when explaining the mind-body relation. This seems to be a forceful assertion against non-reductive physicalism which is intended to dismantle its core principles. These principles are invoked to complete the argument that the mental cause is excluded by the physical cause in instantiating effects. Kim, however, does not give further reasons why the mental cause is excluded and not the physical cause yet the exclusion principle is neutral. It does not specify that the mental cause should be excluded in favour of the physical cause. We argue here that Kim misinterprets the causal exclusion principle and uses it to make his supervenience argument as an analytic truth without justification.

A critic of supervenience based physicalism, Roche Michael (2014, np), claims that these two principles alone are not enough to justify the claim that mental properties are causally impotent. Accordingly, Kim needs to formulate a simpler and comprehensive argument to justify his elimination of the mental cause in favour of the physical cause in a single chain of mental-physical causation which should go outside the two principles. In order for Kim to ground his supervenience argument on the two principles, he should first formulate them and show reasons why they are indispensable in the mind-body relationship. An evaluation of the supervenience argument shows that the supervenience argument cannot be articulated without these principles. The core argument of supervenience is that mental properties are causally impotent and the two principles are handy to demonstrate this. However, these principles should not be taken as only favouring the supervenience argument. They may be used in all physicalism theories precluding only theories that argue for substance dualism.

On the other hand, the physical closure and the causal exclusion principle (used together) complete Kim's arguments for reductive physicalism. These two principles (causal closure and exclusion) are aimed at disqualifying mental efficacy which is important for Kim to make arguments for reductive physicalism. He uses these principles in order to show that mental events depend and are reducible to physical events which is a precondition for the supervenience based reductive physicalism. Although Kim's arguments have been influential and comprehensive in the contemporary debate, his arguments for reduction of mental properties cannot hold unless he gives proof that mental properties are epiphenomenal. Kim seeks to find this proof through the exclusion and the causal closure principles. Although Kim uses these principles to outline the weaknesses of non-reductive physicalism, he does not justify why they should be used, if they have to be used at all. Some critics like Papineau argue that if we look at the ancestry of physical causes, we will identify some mental causes.

For instance, there are several intentional properties that take part in the acquisition of knowledge which produces physical action yet do not have corresponding physical underlying properties. Therefore Kim is not justified to base his philosophy of mind on the two principles without considering the possibilities of intentional properties taking part in causation.

The Supervenience argument, also known as exclusion argument states that two systems which are indiscernible in their physical composition should be indiscernible in their mental composition. Two like systems physically indiscernible should realize indiscernible mental properties or their failure to emerge (Papineau, 2013, 76). Supervenience has been embraced by some physicalists and popularized by Kim. It attempts to explain the relation between the mental and physical domains by giving the mental domain autonomy over the physical domain without lapsing into dualism.

The supervenience argument, unlike eliminativism, does not deny the existence of mind. It acknowledges the existence of mental properties as products of the physical domain and closely dependent on physical properties. This argument becomes problematic when it comes to explaining such issues like how mental properties affect physical properties in the process of causation. It leaves out the question; what role do mental properties play in causation? Kim maintains that mental properties are causally impotent and do not take part in the causation of physical properties. Why then do mental properties appear conditionally with physical properties in every chain of causation and yet remain impotent? Kim would answer the mental properties are like shadows of physical properties (Kim, 1998, 23). What then causes consciousness and felt qualities *qualia*? What causes *qualia* and what role does it play in relation to the body? These questions expose the weaknesses of Kim's supervenience.

If Kim's supervenience adequately explains the mind-body relationship then, all aspects of mental properties should be accounted for by it. The inability of the supervenience theory to account for felt qualities of *qualia* and consciousness indicate the failure of supervenience-based reductionism. There is need, therefore, to reconsider supervenience as a way of explaining property covariation in cases of reducible properties or embrace non-reductive physicalism which acknowledges irreducibility. The only option for arguing form reductive physicalism is to do away the supervenience argument and just maintain that mind is a constituent of the body, depends on it and therefore reducible to physics.

Ernest Nagel in the 1950s and '60s introduced bridge laws that were supposed to link mental and the physical properties. These laws came to be widely known as Nagel reduction bridge laws. However, anomalism argument by Donald Davidson and Putnam and Fodor's multiple realization argument were intended to show that the bridge laws cannot apply on mental properties since certain mental qualities can be realized in a multiple of ways in different systems or supervene on the physical domain "anomalously". Accordingly, to capture mental properties in terms of physical properties we need to functionalize them in order to show their relation to the physical domain.

Accepting Kim's supervenient physicalism leads to inadequate explanation of causation since it excludes some qualitative mental aspects that indubitably exist. He has attempted to formulate a theory that could explain the mind-body relation by departing from Davidson's anomalous monism but still failed to explain *qualia* and consciousness in terms of physical laws relating the mental and physical domains. This leaves open the fact that causation can be explained in terms of non-reductive physicalism since *qualia* and consciousness cannot be captured by supervenience-based reductive physicalism yet they exist in the physical world. Kim suggests that the solution to the mind-body problem will be found in a theory that that is

based on supervenience reductive physicalism. He admits that his theory on supervenience reductive physicalism is not a mind-body theory but an illustration of property covariation between mental and physical properties on which a successful mind-body theory should be based.

Kim's kind of reductive physicalism depends on supervenience which requires that whenever there are supervenient mental properties, there necessarily are physical supervenience base properties that instantiate mental properties. In the "Possible world" where mental properties occur without subvenient physical properties, Kim claims that the possible world is a violation of the causal closure principle (Kim 1998, 34). But in reality, there exist mental properties that are independent of subvenient physical causes. Kim mentions *qualia* and consciousness which do not have subvenient physical bases and hence unfunctionalizable and remain outside the physical domain.

A critical view of Kim's project on how mental properties relate to physical properties reveals irrevocable flaws. Irreducibility of some mental properties to the physical domain indicates that supervenience physicalism cannot capture mental properties in their totality; for example *qualia*. On Kim's suggestion that supervenience reductive physicalism should be used along with an explanatory mind theory, the weaknesses of his theory would be carried forward with its inability to account for *qualia* and consciousness. Kim acknowledges the problem of supervenience and its weaknesses and claims that this kind of reduction puts physicalism near enough but not capable of explaining the mind-body relation and therefore supervenience is not a mind-body theory and should not be discussed as such (Kim,2005, 3).

Gilbert Ryle, in the "The Concept of Mind" (1949), argues that "mind" is an illusion that originates from Descartes' 'ghost in a machine' hypothesis. The concept of mind, according to Ryle, is comprised of habitual logical errors and category mistakes (Ryle, 1949, 259). The

mind and the body are the same and their operations are intertwined and operate as one functional system. To make reference to each separately gives rise to a "category mistake". Ryle's work has been cited to have put the final nail in Cartesian dualism and the founding document in analytic philosophy of mind. He views the mind and the body as the same entity and should be discussed each as part of the other. Although Ryle's work has been rejected with the theory of behaviorism, it however gives guidelines in how physicalism should be salvaged in order to capture all aspects of the mind including *qualia*. Ryle's argument was intended to do away with forms of dualism in the description of mental-physical relationships. Supervenience based physicalism does not escape dualism since its arguments amount to property dualism which gives rise to the problem of *qualia*.

Papineau on the other hand, is a materialist who attempts to find the connection between the mind and the brain as distinct entities. He argues that physicalism is capable of explaining why conscious states occur with brain states. He argues for a close relationship between mental and physical properties such that they are one and the same thing. Mental causes, according to Papineau, are microscopic physical causes that are reducible to physical causes. He argues that mental events are capable of causing physical effects as long as the mental cause is made up of microscopic physical causes which can be explained in physical terms (Papineau, 2013, 263). He further states that conscious mental occurrences have physical effects (Papineau 2013, 271) and therefore mental states have efficacy as long as they are viewed as "constituents" of the physical domain.

His first premise states thus, mental states cause physical behaviour. Secondly, if we trace the history of physical effects, all have physical causes (Papineau 2013, 271). These two premises show the completeness of physics. He gives a "thirst" example, saying that we can only go to the refrigerator to get a glass of water if we have a feeling of thirst. In the case of

the feeling of thirst we must have neurons firing to cause the mental feeling of thirst. Therefore the mental feeling of thirst occurs with the physical occurrence of neurons firing.

Overdetermination implies that one cause can be sufficient for an effect even if the overdetermining cause does not occur. In this case, Overdetermination implies getting a drink without the notion of thirst or without a physical event of neurons firing in the brain which is unconceivable. Accordingly, mental events should be understood to be physical events since causation in the mental domain is dependent on the physical domain and the process of causation occurs simultaneously with the activities of the mind combined with the activities of the body. Going to the refrigerator to get a glass of water without the mental feeling of thirst would contradict the requirements of causation where the action of getting a glass of water should be preceded by the mental feeling of thirst. The mental event of "thirst" is necessary and should happen prior to the physical action of getting a glass of water from the refrigerator. The mental and the physical events complement each other but do not overdetermine each other.

Intuition tells us that in life there are things which can be known to be true by virtue of their very existence. Physicalism should not be understood to be directly supported by intuition. According to Papineau, this implausible. We cannot understand the relationship between mind and body by intuition alone.

There are other rational processes which should be involved in order to establish how the mental and physical domains relate. To understand the mind-body relationship, we have to critically analyze the two concepts. First, we have to begin with the premise that; two systems which are physically indiscernible cannot have different mental properties. This would indicate that physical events are in a way constituted by the mental and not correlated to it (Papineau, 2013, 281).

Papineau introduces the concept of constitution of the human whole as comprising of the mind and body. In this case, dualism between the mind and the body does not occur yet the mind and the body are ontologically different. Take an example that whenever the American president Donald Trump appears on the podium to address citizens. One would ask "What is the relationship between Donald Trump and the president of America?" Papineau would answer "they are the same thing, therefore the question of how they relate does not arise." Ryle would argue that Trump and the "president" are in the same category; therefore to ask how they relate is to commit a category mistake since the same thing needs no explanation of how it relates to itself.

On indiscernibility, Papineau argues that if we manage to arrange matter to form two human beings, atom for atom, until we come up with two identical humans, the two humans should have identical mental properties. If the two identical humans have identical mental properties, then mental properties are physical properties since we only produced the physical part of the human. This shows that to make mental properties, we should make the physical properties. This means that mental properties are physical properties and therefore the subject of how the two relate does not arise since we are referring to the same thing. Supervenience as a way of mind-body relation is therefore unnecessary if we accept that the mind is physical.

The argument from realization in support of physicalism indicate that conscious states are *a priori* functional descriptions which contain physical states. This kind of description begins with the concepts of conscious states then makes reference to physical entities which fails to capture the relation between mental and physical properties. This argument does not capture the state of affairs since the *a priori* notions of consciousness and *qualia* do not necessitate their relation to the physical domain. Kim argues that *qualia* enjoys as a member of the physical domain and makes no casual difference (Kim, 1998, 71). This is an *a priori* assertion

which does not exhibit rational basis on its origin and purpose as a member of the physical world.

From these arguments by Papineau and those argued by other critics of supervenience we can identify weaknesses in Kim's philosophy of mind that makes it problematic and difficult for him to articulate his "no Overdetermination" claim. An evaluation of Kim's claims shows that he makes distinction between the mental and physical domains hence arguing for a form of property dualism. He attempts to overcome this dualism by arguing for a relationship between mental and physical properties by supervenience. He however fails to explain the place of *qualia* in the physical world which makes supervenience based reductive physicalism inconclusive. He does not give reasoned arguments that express the supervenience argument without arguing for a dualist stance which prevents him from accounting for *qualia*. He can do away with the ambiguity of mental and physical causation by arguing with Papineau that "mental properties are made up of micro-physical components" which will put mental events in the physical domain and will demonstrate completeness of physics and reducibility in order to escape the problem of causal overdetermination. In this case, if mental events are physical events, then he should argue for mental efficacy, which will disqualify his argument for mental epiphenomenalism.

In order to demonstrate his "no overdetermination" claim, Kim needs to demonstrate that mental events are also physical events at a certain level and therefore reducible to the corresponding physical constituents that instantiate them. His arguments should be contend that mental properties are physical properties and do not have a cause-effect relationship. The mental properties ought to be illustrated as constituted by physical properties and not caused by them.

In order to understand Papineu's argument that the mind is a constituent of the body, we can refer to some body functions. A smile for example is a simple body function involving contracting of muscles and exposing teeth. We cannot claim that there is something other than the physical action called smiling beyond the physical action. The smile is the sum total of the physical action of the body and the concept "smile" refers to this activity and is part of it. Any attempts to find how a smile relates to the physical body will be futile. The mind can be likened to the body function of smiling if we look at it as the ability of the body to perform certain functions. The only way we can capture the mind is to view the mind as the ability to perform certain functions that are captured by way of concepts and referred to as mental functions. The thought experiment of Mary and the black and white environment shows that subjective conscious aspects of the human mind can be explained in terms of the ability of the body to give rise to these qualities. The subjective qualitative aspects of human perception are part or constituents of body functions and therefore should not be taken to be outside the physical domain.

The supervenience argument becomes problematic when Kim invokes the exclusion, closure and "no Overdetermination" principles without explaining how mental properties are epiphenomenal yet he argues that mental events comprise of bits of matter. He argues that mental causation is effected by the underlying physical properties yet distinguishes mental properties from physical properties thus arguing for a form of dualism at the same time arguing for mental epiphenomenalism. One would ask why mental events remain epiphenomenal yet they are made of bits of matter? Kim would respond that they are not "sufficient" causes of physical effects. However, he does not state what makes a cause sufficient.

From Kim's argument that mental properties are made up of matter acting in on the basis of the laws of physics, mental properties are necessarily efficacious. At another level, he argues that mental properties can have causal efficacy as long as the causation is performed by the underlying physical properties. The trends in his arguments show enormous instability and shifts in flow of thought. The claim that mental properties are *epiphenomenal* may seem to contradict the earlier claim that mental properties are made up of matter. Kim however makes the claim that for a cause to be efficacious, it has to be a "sufficient cause", but he does not put explicit why the mental cause is not a sufficient cause of the effect. His claim would be simpler if he would do away with these principles that make his arguments problematic and only maintain that mental causation depends on the corresponding physical cause.

Brandon argues that the exclusion argument requires that the physical cause completes the causal process without the intervention of mental events (Brandon, 2011, 236). In this case, if mental events have to participate in causation, they have to be identical to physical events in which case causation will be completed in the physical domain. Brandon's argument is basically that; if we consider mental events to be in the physical domain, then the exclusion problem where mental properties exist in a separate domain and the question of mental efficacy does not occur. Brandon's argument sounds simple and straight forward and gives hints on how to avoid the exclusion problem.

Kim would avoid the dualistic nature of his version of physicalism by arguing with Papineau that mind is a constituent of the body and does not "emerge" from it as he appears to argue. I conclude that supervenience is inconsistent with any form of physicalism and the study of mind in general as long as it indicates a dualism that puts mind and body in different categories. Kim's final remark that supervenience does not attain the status of a mind-body theory but only demonstrates the pattern of property covariation between mental and physical

domains does not save Kim's theory from the damage that is already irrevocable (Kim, 1998, 7).

Finally, this research has established that Kim has given a well-reasoned and critical evaluation of different kinds of materialism exposing inconsistencies in them. First, by evaluating Donald Davidson's "anomalous monism" and John Searle's "biological naturalism" in order to argue that any physicalism that is not based on "reduction" or "supervenience" of mental properties on their underlying physical properties leads to causal "overdetermination" and is therefore inconsistent for explaining the mind-body relation. He articulates his own version of physicalism which [heavily] bases on two principles; physical closure and causal exclusion principles. He however does not find an explanation of how neural properties, which exist in the physical domain, give rise to *qualia*, the felt qualities of perception and consciousness. He therefore concludes that; supervenience, which is the central concept of his version of physicalism, is not a mind-body theory but an explanation of property covariation between physical and mental events (Kim, 1998, 14). This research therefore concludes that Kim's physicalism in its totality is inconclusive and fails to account for the mind-body relation. This is so since supervenience does not account for all aspects in the mental domain particularly *qualia*, a mental event which remains outside the physical domain.

The study of "supervenience" causation shows that there is need to consider higher levels of complex structured causation where higher level properties supervene and therefore depend on lower level properties in terms of causation. This will involve considering higher level disciplines like sociology, psychology as well as disciplines of natural science like physics and chemistry. But this will lead us outside the scope of philosophy unless philosophy takes a naturalized approach of quantitative analysis. Supervenience is therefore outside the study of mind as a philosophical inquiry and the supervenience argument does not hold in its totality.

An evaluation of the trends in Kim's philosophy of mind gives evidence that he has not maintained a stable stance on the mind-body relationship.

In his 1989 article, he argued for supervenience based non-reductive physicalism where he argued that mental properties supervene on physical properties but are irreducible to the physical domain. In his book *Mind in a Physical World* 1998, he argues for supervenience based reductive physicalism where he maintains that mental properties supervene on physical properties and are reducible to the physical domain. In his later work; *Physicalism or Something Near Enough*, 2005, he argues that; since supervenience does not capture *qualia*, physicalism is near to the solution of the mind-body problem but not a solution to it.

In a 2008 interview with a Korean newspaper, Kim argued that physicalism may not survive in its current form due to challenges like *qualia*. We should, therefore seek a naturalistic explanation for the mind since supernatural explanations provide one riddle over another (Kim. k, 2008, np). He currently believes that any correct explanation for the nature of mind will come from natural science and not philosophy or psychology. From these trends in Kim's physicalism, it is evident that he has had difficulties maintaining a stable physicalism stance involving supervenience. This leads this research to conclude that supervenience has failed to demonstrate the mind-body relationship hence has failed as an approach to the mind-body problem.

This research recommends that, in order to salvage physicalism, Kim should give up his supervenience argument and just maintain that the mind is a constituent of the body, depends on it and therefore reducible to it. This way of argument will eliminate the problem of *qualia* which will have to emerge from the physical domain on which mental properties are constituted

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