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Consciousness and Cognition: A Processual Dynamical Perspective

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Table of Contents

Abstract 6

Abstrakt 7

1.Introduction 8

Part One 25

2. Dualism 26

2.1 The Platonic Argument for Substance Dualism 29

2.2 Classical Cartesian Interactionist Dualism 39

2.2.1 Some Objections 51

2.3 Spinoza's substance monism: A Cartesian critique 56

2.4 Parallelism 61

2.5 Popperian Interactionist Dualism 68

3. Mentalism or Subjective Idealism 82

3.1 Locke's Theory of Perception and Identity 82

3.2 Berkeley 87

3.3 Hume's criticism 93

3.3.1 Hume's theory of causality 95

3.3.2 Hume's theory of identity 98

3.4 Further Problems and Conclusion 102

4. Reductive Materialism 104

4.1 Defining Materialism 105

4.2 What Is Reduction? 110

4.3 Classical Materialism 113

4.4 Behaviorism 114

4.4.1 Logical Behaviorism 117

4.4.2 Ontological Behaviorism 121

4.4.3 Methodological Behaviorism 122

4.5 Eliminative Materialism 124

4.6 Identity Theories 127

4.6.1 Type-type identity theory 132

4.6.2 Token-token identity theory 136
4.7 Functionalism: A way out? 140
5. Non-reductive Materialism 145
5.1 The Principle of Supervenience 148
5.2 Is Consciousness supervenient on the Physical? 152
5.2.1 Argument of logical possibility of a zombie world 155
5.2.2 China Brain 156
5.2.3 Chinese Room argument 157
5.2.4 The inverted spectrum argument 159
5.2.5 Epistemic asymmetry argument 160
5.2.6 The knowledge argument 161
5.2.7 The absence of analysis argument 163
5.2.8 Some Alternative Approaches 163
5.3 Epiphenomenalism 168
Part Two 173
6. Kant's Transcendental Idealism and Empirical Realism 174
6.1 Transcendental Aesthetics 180
6.2 Transcendental Analytic and the Analytic of Concepts 184
6.3 Analytic of Principles 198
6.4 Transcendental Dialectic 201
6.5 The Bergsonian Critique 203
7. An Existential Phenomenological View 209
7.1 A Paradigm of Perception 209
7.2 The Hegelian Roots 212
7.3 Human Existence as Being-in-the-World 221
7.3.1 Intentionality 223
7.3.2 The Umwelt 230
7.3.3 The Eigenwelt 234
7.3.4 The Mitwelt 240
7.4 Dualisms Dissolved 248
8. Process Ontology and Evolutionary Emergentism 251

8.1 Aristotelian Notion of Substance and Causality 252
8.2 Fundamentals of Process Metaphysics 256
8.2.1 What does this say about causality? 258
8.2.2 The Nature of Process and its Interaction with Time 259
8.2.3 Process and Change 265
8.2.4 Characteristics of Processes 267
8.2.5 Processes and Universals 267
8.2.6 Processes and Dynamical Systems 273
9. Emergence, Consciousness, and Dynamic Logic 282
9.1 Emergence 282
9.2 Logic of Being and Becoming 290
9.3 Evolutionary Emergentism, and Consciousness 296
9.3.1 Appercetive consciousness 300
9.3.2 Introspective or self-consciousness 305
9.3.3 Perceptive consciousness 306
9.4 More Thoughts on Processes 309
9.5 Some concluding thoughts about the self 310
10. Concluding Remarks 317
Bibliography 321

Abstract

In this work, I examine the traditional theories of mind and consciousness. I present the arguments that support them and the presuppositions that hold them. A critical analysis of these theories will show that they all fail for apparently different reason. I will also provide the standard arguments against them.

I maintain that this failure is the result of a fundamental presupposition that they all share, namely substance ontology. The standard causality view, which presents the other source of this problem is the direct consequence of assuming a substance ontology. The result of these assumptions is to render consciousness impotent or over-determining. As a result, consciousness must be reduced to some other phenomenon, eliminated, or accepted as impotent. Moreover, theses view cannot really distinguish between mind and consciousness.

The position maintained in this work is to abandon the ontological primacy of substance ontology and replace it with process ontology and add emergence, creativity, correlation, and simultaneity to our ontological world-view along with spatiality, temporality, and causality. We maintain that the world is primarily made of process, which are inherently temporal, lawful, and creative self-organizing dynamic systems. Human existence, mind, and consciousness should also be understood as embodied inherently temporal, lawful, creative self-organizing dynamic system. Consciousness should be distinguished from the mind, which can be adequately accounted for by functionalism. We should be able to account for intentionality, temporality, and phenomenology of consciousness.

Abstrakt

In diesem Werk, ich untersuche die traditionelle Theorien von Geist und Bewußtsein. In dieser Zusamenhang ich präsentiere die unterstützende Argumente und die untermauerende Annahmen. Eine kritische Analyse von allen diesen Theorien will zeigen, daß sie alle für anscheinend vershiedene Gründe versagen. Ich werde auch die standard Argumente gegen diese Theorien präsentieren.

Es ist meine Position, daß diese Theorien durch eine gemeinsame Annahme versagen nämlich Substanz Ontologie. Die standarde Theorie von Kausalität präsentiert der andere Grund fürs Versagen dieser Ansichten und sie ist genauso von Substanz Ontologie abzuleiten. Als Resultat ihre Annahmen diese Ansichten machen Bewußtsein entweder überdeterminierend, oder impotent. Danach muß man entweder Bewußtsein zu einem anderen Phänomnen reduzieren, oder eliminieren, oder dessen Impotenz akzeptieren.

Ich glaube, daß der ontologische Vorrang von Substance aufgegeben werden muß und es muß mit Prozeß Ontologie ersetzt werden muß. Wir sollten Emergenz, Korrelation, Simulteneität, Kreativtät der gleiche ontologische Importanz einräumen wie Kausalität, Temporalität, und Spatialität. Wir nehmen an daß, die Welt primär aus Prozesse besteht, die gründsetzlich zeitlich, gesetztmäßig, schöpferische selbst-organisierende dynamische Systeme sind. Menschliche Existenz, Geist, und Bewußtsein sollte auch als solcher Prozeß betrachtet und verstanden werden. Unsere Ansicht unterscheidet zwischen Geist und Bewußtsein. Zusätzlich, es wird versucht die grundlegende Eigenschaften von Bewußtsein wie Intentionalität, Temporalität, und Qualität gerecht zu werden.

Chapter One:
Introduction

According to my understanding of the landscape of this topic, the traditional concept of mentality is based on four assumptions. 1) The notion of mentality is intimately linked to, and in fact inseparable from, the idea of the inner as opposed to the outer. Hence, it is deeply rooted in Cartesian dualism. 2) The idea of mentality is related to the idea of representation, which is the subject picturing the object. Here, the emphasis is on the mode of information processing as opposed to the first assumption, which emphasizes the ontological gap. 3) The traditional notion of mentality, and self, is based on substance ontology. 4) The concept of mentality is based upon a conception of time as the present, which fails to uphold the importance of past and future. This presupposition is a natural outcome of the substance ontology. A substance is necessarily an entity of the present moment moving along the medium of time, where the past once was and does not enjoy reality anymore and future, although representing the future potentialities, is not real. We reject the primacy of these assumptions and suggest the importance of understanding human existence in terms of a process as opposed to being a substantial subject, for which the world is an object.

Customarily, human mentality is considered a thing, or substance, occupying a corner of the world. The mind stands in a causal relationship to other things. In other words, it is the principle of causality that relates the mind to other things. This is best illustrated by Descartes' *cogito*, which relates contingently to *substantia cogitians*. This view holds that the mind might have never been directed to its objects and the mind and its objects are logically independent of each other. In contrast to traditional idea of mentality, this work promotes the view that mentality is tied to the world through *care* and *concern*. Moreover, consciousness is necessarily directed.

The question of the nature of the consciousness and its relation to the world is one of the perplexing enigmas of philosophical discourse. It seems like no objective or scientific definition is capable of capturing the essence of consciousness. For instance, if we try to define consciousness in terms of some psychological function, such as awareness or attention, or some physical structure and function, such as presence of certain neurotransmitter or the activity of certain group of anatomical structures in the brain, then

one's attempt at the objective definition of consciousness will leave out an essential property of consciousness, namely why conscious states *feel* a certain way. There seems to be no logical reason why a creature should become conscious just because it is made of one kind of material rather than another. There appears something ineffable about the nature of consciousness. One can illustrate this subjective element through examples, but the objective definitions seem to be not forthcoming.

Talk about conscious mental states, such as pains, sensory experiences, or dreams, often conflates subjective and objective conceptions of these states. However, one should, but often does not stop to, distinguish the subjective aspect, of what it is *like* to have the experience, from the objective features, such as the psychological function, and the physical constitution of that experience. This conflation is of no consequence in our daily activities, since the subjective aspect and the physical features seem to go always together. However, any serious philosophical and scientific discourse must respect that distinction.

Thomas Nagel makes the same point when he raises the famous question: "What is it like to be a bat?"[1] Science tells us that bats find their way around by echolocation. They emit high-pitched sounds and through the echoes, they map out the location of physical objects in the surrounding. Hence, bats are not aware of just raw sounds, but they are aware of physical objects in the same way that vision makes us aware of objects and not light waves. In raising this question, Nagel wants us to distinguish between the two conceptions of conscious experience, the objective and the subjective. The point is that we have no conception of the subjective aspect of bat's experience. In case of humans, we do not bother with this distinction, because we think of human consciousness at once in subjective and objective terms. The bat case, however, forces us to make that distinction, because we have no understanding of how the bat experience feels like, in spite of having many objective data about it. In other words, our scientific investigation tells us a great deal about bat brain, but nothing about what is it like to be a bat. Consequently, Nagel identifies a feature of experience, which seemingly escapes scientific description. It seems no amount of scientific description will relay a subjective understanding of conscious experience. Even though, we normally run subjective and objective aspects together, we should not forget that these aspects should be distinguished. Moreover, the main problem of nature of

[1] Nagel, T., (1974) What is it like to be a bat?, *Philosophical Review* 83.4, pp. 435-450.

consciousness relates to the subjective character of mental states. This subjective aspect is the *what-is-it-likeness*, *qualia*, or the *phenomenology* of experience.

Chalmers distinguishes between the *hard problem* and the *easy problem* of consciousness.[2] According to Chalmers, the *easy problem* relates to the objective study of brain states. At the objective level, we can assign causal functions to different physical and psychological states and structures. The objective study of mind, and the brain, is easy as far as it lends itself to the tools of scientific investigation. In addition, it does not raise any seemingly intractable philosophical problems. For instance, one might analyze pain as a state, which is caused by bodily damage, and it leads to a behavior to avoid the noxious stimulus. Furthermore, we can investigate the multiple realizations of the pain function and circuitry comparatively in different organisms. However, none of the structural and functional analysis reveals anything about the phenomenology of pain or any other mental state. Causal and functional explanations ignore the qualia of mental states.

The explanation of phenomenal consciousness, hence, constitutes the *hard problem* of consciousness. The question is whether we can explain why does it feel like something to be us. The difference between our ability to solve the *easy problem* as opposed to the *hard problem* constitutes the *explanatory gap*.

Another feature of consciousness, which seems also to escape physical reduction, is *intentionality*. A state is intentional, if it is *about* something and it refers to something. The main puzzle is how physical states can be *about* something. How can words, marks on paper or patterns of sound, stand for something? One could respond by saying that the marks on paper and patterns of sound are *about* something, because we understand what they mean. However, this response just pushes the question one-step further and it does not resolve it.

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[2] Chalmers, D., (1986) *The Conscious Mind: In Search of a Fundamental Theory*, Oxford University Press, pp. 32-42, 103-104, 131-132.

Traditionally, the landscape of the theories of the nature of consciousness is quite diverse: substance dualism, mentalism, and reductive and non-reductive materialism.

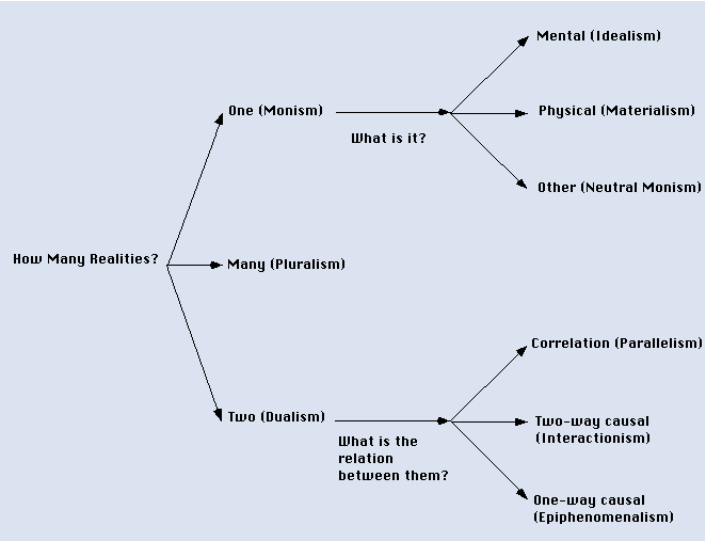

Fig 1.1: Nature of reality (www.pages.slc.edu)

The basic assumptions of substance dualism are that conscious experience is fundamentally different from brain activities. However, this assumption raises further questions as to if the world contains subjective elements, then how do the subjective aspects interact with the physical components that fill up space and time. Furthermore, what principle governs the emergence of these subjective elements?

Descartes is the classical proponent of substance dualism. He believes that there are two separate but interacting realms, the mental and the material. Descartes assumes that the material realm contains matter in motion, and all action is by contact. For Descartes, all physical effects are caused by bits of matter bumping into each other. According to Descartes, colors, sounds, smells, and all sensory impressions are not just objects in themselves, but they are impressions produced in us by the action of material particles on our sense organs. Reality is not exhausted by matter in motion, but it is composed of the mental realm as well. The realm of mind is constituted by thoughts, feelings, desires, and so on. The constituents of the mental realm have none of the spatial properties of matter, such as size, shape, and motion. The only attribute that the constituents of the mental realm share with material things is temporality. Descartes, however, claims that these two realms can interact with each other in spite of their radical ontological difference. According to

Descartes, material causes can produce mental effects and mental causes can produce material effects. Moreover, there is a location for this interaction, namely the pineal gland. This is a pea-sized organ in the human brain that is not symmetrical. However, Descartes does not explain how this interaction happens. Realization of this problem led to the advent of *parallelism* and *occasionalism*. However, these attempts seem to complicate matters unnecessarily and so, they fall to the objections of *Ocham's razor*.

There are also modern theories of dualism such as the one proposed by Karl Popper.[3] In this theory, dualism is expressed in terms dimensions, or worlds, of human existence. It is maintained that our existence is comprised of a physical dimension, a mental aspect, and a third world, which arises from the interaction of the physical and the mental realm. The Popperian notion seems very useful and fascinating. However, it is not clear how they support a dualism in a clear fashion.

Mentalism arose from the problematic interaction concept of mind and matter in Descartes. The problem that perturbed Descartes' successors was that if our conscious selves dwell exclusively in the mental realm, then how could we be sure about things on the other side of the mind-matter division? It seems like Descartes' dualism condemns us to ignorance about the material world. Berkeley offers a radical solution to this problem. He claims that there is no independent evidence for existence of material world. All our experiences are just as they are, but there are no physical objects *out there* causing those experiences. As a result, everything would continue to appear as normal, even though there would be nothing in reality except mental experiences. Mentalism, at once solves the problem of knowledge of the external world and the problem of mind-matter interaction. According to Berkeley, we know only our ideas. Hence, to be is to be perceived.

Hume's critical analysis takes mentalism to its logical conclusion, which seems to be *solipsism*.[4] The concern is that if mental states are essentially private, meaning that they are accessible to a single individual from the first person perspective, then how can anybody ever know about the mental states of others? More importantly this question makes our interactions, communications, and discourse nonsensical. Wittgenstein

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[3] Heil, J., (2004) *Philosophy of Mind: a contemporary introduction*, Routledge, New York & London, second edition.
[4] Maslin, K. T., (2001) *An Introduction to the Philosophy of Mind*, Polity, Cambridge UK.

highlights the implausibility of mentalism through the *private language argument*.[5] He asserts that public verification is essential to the workings of language. In other words, there are no meanings and sense in a language the claims of which can be checked by only one person. Accordingly, talk of mental states cannot possibly refer to solely private states. If mental states have any objective content, one must regard the mental realm as intrinsically connected to the behavior, which makes it publicly observable.

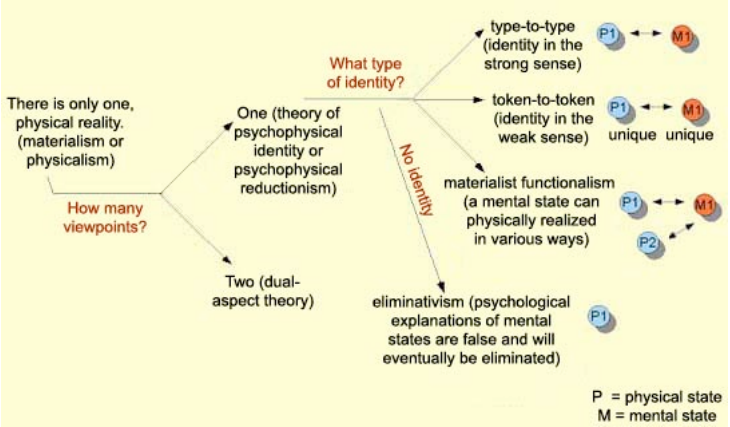

Fig. 1.2: Physicalism (www.commons.wikimedia.org)

Mentalism's demise begins with Hume's critic and the rise of eliminative and reductive materialism. Materialism, of any variety, rejects the distinction between subjective mind and objective brain. Eliminativism asserts that subjectivity is a fiction of *folk psychology*, which will be dispelled with scientific advances. Eventually, subjectivity and, in fact, all mental jargon will go the way of aether and other misconceptions of the unsophisticated mind. This view seems highly implausible, since it cannot explain why mental states act *as if* they have subjective qualities. How can the *deception* of subjectivity arise out of physical and objective structures? Reductive materialism, on the other hand, does not reject the reality of mental states, but it claims that they are identical to material states. Mental talk refers to the same material states, but it uses a different descriptive set and language. This implies that brain states can be expressed either in physical terms of natural sciences, or in mental terms. To say that one is in pain refers to the same brain state as saying one's C-fibers are firing.

We could use the example of temperature to illustrate the reductive materialist position. Physicists explain temperature in terms of mean kinetic energy. This, however,

[5] Kim, J., (1998) <u>*Philosophy of Mind*</u>, Westview Press.

does not entail the elimination of temperature talk from our ontology. Neither, does it imply that we must add temperature as an extra feature to our ontology. The point is that temperature is nothing above and beyond mean kinetic energy. A similar case holds for consciousness and brain. Conscious states do exist, but they are nothing above and beyond brain states. Mental talk is just a different language of describing brain states. Just as we have discovered that temperature is nothing other than mean kinetic energy of molecules in motion, so we shall accept that conscious states are nothing other than brain states.

The problems with reductive materialism are manifold. First, reductive materialism cannot account for multiple realizability of mental states. Second, it cannot explain intentionality. Third, it cannot account for phenomenology of mental states. It cannot explain how objective states give rise to subjectivity.

Functionalists think of mental states in terms of their typical causes and effects. Mental events are causal intermediaries, arising from perceptual stimuli and affecting behavior through their interactions with other mental states. For instance, pain would be a state, which arises from bodily damage and usually causes a desire to avoid the source of that damage. Any resulting behavior depends on the interaction of this desire with other beliefs and desires. Consequently, functionalism allows for the reality of mental states, even though they do not manifest themselves directly in observable action. Functionalism, however, does not commit itself on what mental states are made of. Ontologically, it is compatible with all the theories discussed here. However, most of the functionalists are non-reductive physicalists.

As a response to the shortcomings of reductive materialism, modern theories of physicalism embrace a form of non-reductive materialism, which assumes the duality of properties. 'Property dualism', instead of considering conscious minds as made of a separate stuff, wholly other from the material body, asserts that there is only one type of substance—matter—which can possess two distinct types of properties. Consequently, humans have physical properties—such as height, weight, and neurophysiological parameters—and they have distinct conscious properties, such as being depressed or being excited. This implies that non-reductive materialists are property dualists and not substance dualists like Descartes.

The relationship between brain and mind is described by the *principle of supervenience*. This principle states that mental properties *supervene* on the brain states. The supervenience statement entails that mental properties *depend on* and *co-vary* with brain states, but not vice versa. Moreover, mental states are not *reducible* to brain states.

There are some major arguments in favor of property dualism. In one case, Kripke imagines a creature who is physically identical to himself, but who has no phenomenal consciousness.[6] Here, Kripke proposes the possibility of zombies. This possibility entails that consciousness and brain can come apart, since Kripke and Chalmers maintain that there is nothing logically contradictory about the idea of zombies. Consequently, if zombies are possible, then conscious properties must be different from any physical or structural properties. The crucial point is that if we so much as admit the zombie scenario as possible, its very description commits us to a difference between conscious properties and physical and structural properties.

The second argument for property dualism is based on Leibniz's argument from knowledge. Frank Jackson proposes the modern version of argument from knowledge.[7] Mary is an absolute authority on human vision and in particular on color perception. She knows all about light waves and reflectance profiles, rods and cones, and the different areas concerned with vision in the occipital lobe. However, she has never seen any colors herself. She has lived all her life inside a house painted black and white and shades of grey. All her knowledge of color vision is theoretical. One day Mary walks out of her front door and sees a red rose. At this point, Jackson claims, that Mary learns something new, something she did not know before. She learns what it is like to see something red. If this is the case, then it seems to follow that not all mental properties are physical or structural properties. Consequently, this further property must be distinct from the physical and structural properties she already knew about. She has learned about the phenomenal nature of what it is like to see a red rose.

Property dualism, however, still has the problem of explaining how a mind can affect matter without violating the principles of physics themselves. This is due to the fact that physical world is causally closed and complete. The causes of physical events and

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[6] Chalmers, *Consciousness*, pp. 131-133.

[7] Jackson, F., (1982) Epiphenomenal Qualia, *Philosophical Quarterly* 32, pp. 127-136.

states are always other physical events or states. Moreover, if we trace back the causes of physical effects, we will never have to leave the realm of the material. This seems to leave no room for non-physical properties, such as the conscious properties of experience, to make any difference in behavior. The implication of the causal closedness of the material world is the causal impotence of the mental and conscious elements. This implies that, in spite of common sense belief our hopes, desires, and mental states affect our bodily states, the effect of mental states is an illusion. Since there is no room for anything non-physical to affect physical events, conscious mind must be causally impotent. This view is *epiphenomenalism*, which allows *upward causation* from brain to mind, while it denies the *downward causation* from mind to brain. Epiphenomenalism respects the causal closedness of the world, while allowing the reality of consciousness. According to this view, the conscious mind is an epiphenomenon caused by the brain, but it has no power to influence the brain. However, epiphenomenalism is a highly unattractive position, because it rejects the most immediate experience that we have. This view rejects the common sense view that our hopes, desires, needs, and other mental states play a role in the activities in this world. Furthermore, property dualism never gives a clear status to epiphenomenon in its ontology.

It seems dualism, reductive materialism, and non-reductive materialism or property dualism fail to give a satisfactory account of the nature of consciousness. Mentalism saves consciousness, but sacrifices the world at its feet. It is my position that this failure is based on a misconception. This error is the result of a specific view of consciousness and its relation to the world.

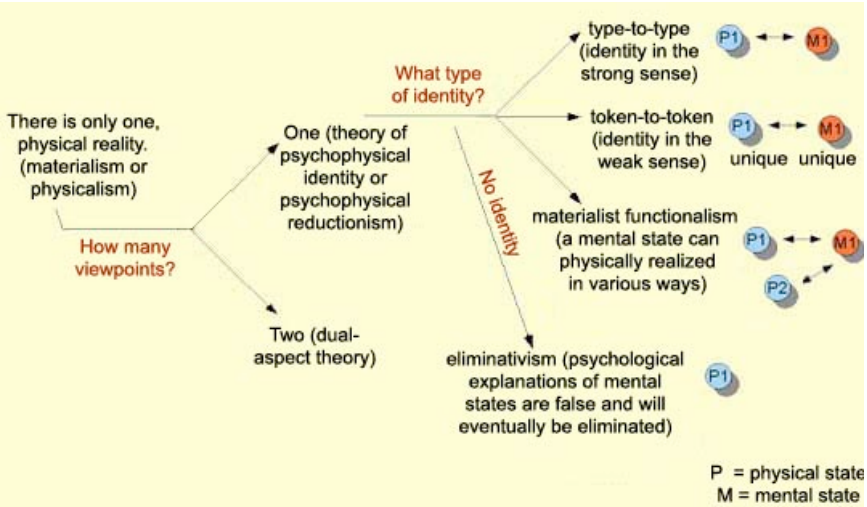

Fig. 1.3: Physicalism (www.commons.wikimedia.org)

All the theories of consciousness have certain ontological commitments. These ontological presuppositions are not accidental to a certain theory, but they provide the foundation upon which the theory is formed. In other words, any analysis of a theory should not be limited to the assertions of the theory, but it should also include the presuppositions of the theory, the grounds that make the assertions possible. Consequently, any evaluation of these theories must accompany a scrutiny of these ontological commitments. This requirement remains justified even in those cases where the theory is not formulated in ontological terms. To clarify this point, let us take the case of materialism. Modern materialist theories of mind mostly speak in terms of mental and physical events. On the surface, it seems the ontological presuppositions of these theories are irrelevant to what they say about the relationship between consciousness and the world, because they talk about events. However, this appearance of irrelevance is false, since avoidance of formulation of our theories in terms of our ontological commitments does not make those presuppositions irrelevant. Just because modern theories address the question of consciousness in terms of events, it does not divorce them from their ontological roots. The outstanding question is what those events are. Are these events anything other than the interaction between 'things' or concrete particulars, or the persistence or change of these 'things' and concrete particulars through time? The answer seems to be negative to this question. The point is that if we assume the wrong ontological picture, the subsequent theories founded on these assumptions will be faulty. If the ontology of materialism is false, then the theory of consciousness built on this ontology will be faulty as well.

If a problem becomes intractable, then maybe the culprit is the ontological commitments of the theories, which try to resolve that problem. It is my position that this is the situation with the problem of consciousness. Hence, the remedy is to change our ontological presuppositions and then formulate a theory of consciousness.

At this point, we should identify those metaphysical commitments, which lead us astray. However, before we begin with this task, it is important to say a word about the justification of this project. The point is that why we should give up a metaphysical view, which works quite well otherwise, in order to resolve the question of consciousness. If our theory is satisfactory in all possible ways except for one, why should we discard it? This is a fair question otherwise, but it is misguided in this case. The reason is that if physicist had

subscribed to such a view, we would not have the theories of relativity and quantum mechanics. After all, Newtonian theories were functioning quite well except for two phenomena at the time. Those were the photoelectric effect and the double slit experiments. The point is that it is not just important what a theory can explain, but also what it cannot explain and why not. If a theory is fundamentally incapable to explain a phenomenon, then it must be either amended or discarded. This point is especially relevant in our case with respect to materialism. Even if materialism is completely potent in its explanatory powers to explain all kinds of phenomena, but it cannot explain one phenomenon, namely consciousness, then it must be corrected or discarded. Convenience is not a substitute for truth.

Dualism, materialism, and mentalism, in spite of their differences, are based on two basic assumptions:

1) The world is made of concrete particulars, or things. In other words, they assume a type of substance ontology. Traditionally, a substance has been understood as a primary reality, something that is able to exist independently. Hence, a substance is a logically independent, temporally persistent, and spatially extended 'thing'.
2) Consciousness and mind are representational in nature. Hence, they assume the representational theory of mind (RTM).

Historically, there have been five distinct interpretations of the concept of 'substance':[8]

a) A substance is an independent being.
b) A substance is the ultimate subject of predication. Accordingly, a substance is that of which things can be predicated but which cannot be predicated of anything else. The relationship between substance and its properties is one of inherence. Accordingly, a substance is something to which things adhere, but which does not inhere in anything. Inherence signifies dependence.
c) A substance is the individuator. A substance is a concrete particular with shareable and universal properties.
d) A substance is the survivor of change.
e) A substance is the basic object of reference.

[8] Kim, J., Sosa, E., (2000) *A Companion to Metaphysics*, Blackwell Publishing, New York.

f) A substance is a subvenient fact, upon which other facts supervene.

My argument is not just against traditional scholastic Aristotelian substances, but all the different formulations of the concept of substance. One important distinction that needs to be made is between the scholastic interpretation of Aristotelian notion of substance and causality and the original ideas of Aristotle himself. We will come back to this important distinction later. However, my argument is not that substances do not exist, but that they don't constitute the most fundamental level of reality.

The fundamental claims of the RTM are:

1. Any attempt to understand the nature of mind requires us to outline the relationship between certain brain states and certain features of the physical world. In other words, how is possible for certain brain states to *stand in,* or *represent,* the physical world and it features.
2. Moreover, the causal relationship between brain states should also be representative of the effective causal chain in the world. In other words, the relationships should also be represented, not just the objects.
3. The representationalist theory of mind assumes a symbolic manipulation of data from the external environment. This means that RTM assumes machine functionalism. Consequently, it is a computational machine.

The methodology of a system based on RTM is very much akin to the methodology of symbolic logic. In both cases, we begin by formalizing our domain of discourse. This means that we convert the problem at hand, which is a real feature of the physical world, into formal symbols. The system performs its necessary calculations on the symbols and then, it converts the obtained symbolic answer back into a language, which is representative of the actual features of the physical world. Hence, the system performs two acts of translation: first, from the actual to symbolic, and then from symbolic back to the actual. The symbolic information, moreover, is according to the inherent rules of the system, or its syntax. In fact, a system based on RTM is a syntactical machine. This very realization is the harbinger of problems to come. The problem is the question of the origin of semantics. The question can be formulated as such: how can a syntactical machine produce semantics and meaning. In other words, how can structure produce meaning. This

is not an aesthetic problem, as we will see. In the case of human mind, and human existence, this is the deciding question.

One possible solution could be to rely on the phenomenon reentrant loops. Here, we say the information is usually in feedback loops, which lead to a continuous re-processing of information. The consequence of the looping of information is that the information is condensed. This information is made more and more salient at each turn. As a result, semantics emerges. Now this explanation, although fascinating and illuminating, falls short. First, the question remains: why should condensation of information lead to semantics. Furthermore, we have introduced the notion of saliency here; better said we have smuggled the notion of saliency here. However, saliency is another word for meaning and value. Nevertheless, to say salient instead of semantic does not solve our problem.

Another crucial feature of RTM is the necessity to separate perception, cognition, and volition in an ontological way. This is a real separation and not a distinction for the sake of explanatory purposes. RTM, in fact, must presuppose this separation. Otherwise, the computational model will crumble. It is necessary to assign perception, cognition, and volition separate functions, domains, and mechanisms. As a result, perception has the function of converting the external information into formal symbolic language, according to the rules of the syntax. This should constitute a representation of the physical world. Cognition is charged with processing the formal symbolic representations syntactically and causally. These rules of syntax, in the case of the brain, are the biochemical and electrical genetically encoded schemas of how the brain works. Finally, action is the product of re-conversion of some of these processed data into world relevant motor output.

From a theoretical perspective, as it was indicated above, the RTM present an argument for the validity of functionalism in general, and machine functionalism in particular, as the proper theory of mind. Functionalism is the doctrine that states what makes something a thought, desire, pain (or any other type of mental state) depends not on its internal constitution, but solely on its function, or the role it plays, in the cognitive system of which it is a part. More precisely, functionalist theories take the identity of a mental state to be determined by its causal relations to sensory stimulations, other mental states, and behavior.

For instance, a functionalist theory might characterize pain as a state that tends to be caused by bodily injury, to produce the belief that something is wrong with the body and the desire to be out of that state, to produce anxiety, and, in the absence of any stronger, conflicting desires, to cause wincing or moaning. According to this theory, all and only creatures with internal states that meet these conditions, or play these roles, are capable of being in pain.

Suppose that, in humans, there is some distinctive kind of neural activity (C-fiber stimulation, for example) that meets these conditions. If so, then according to the functionalist theory, humans can be in pain simply by undergoing C-fiber stimulation. But the theory permits creatures with very different physical constitutions to have mental states as well: if there are silicon-based states of hypothetical Martians, or inorganic states of hypothetical androids that also meet these conditions, then these creatures, too, can be in pain. As functionalists often put it, pain can be realized by different types of physical states in different kinds of creatures, or multiply realized.

The main argument of this work is that both of these metaphysical commitments are faulty. Consequently, any theory of consciousness based on these presuppositions is false as well. The way that I propose to prove the falsehood of these presuppositions is to show that their corresponding theories of consciousness fail. Hence, the presuppositions must be rejected. Accordingly, this project is composed of two parts. The first part of the work is critical in nature. Here I present the traditional theories of consciousness and proceed to prove their falsehood. Chapter 2 (Dualism), chapter 3 (Mentalism), chapter 5 (Reductive Materialism), and chapter 6 (Reductive Materialism) comprise the critical part of this project.

Whitehead and Rescher challenge the first assumption altogether. Furthermore, they propose a new ontology, which replaces substances with processes at the fundamental level of our ontology. Process ontology provides a very coherent picture of reality. Chapter 8 provides an exegesis of the fundamental concepts of process ontology. Moreover, I will outline my view with respect to consciousness and it essence as the emergent evolutionary property of the world process.

Kant challenges Cartesian dualism and mentalism at once. Moreover, he puts an end to the false notion that consciousness lacks function. The fundamental function of

consciousness consists of unifying all experiences of the subject under one principle, which accounts for the ownership of experience of the subject. This is the transcendental unity of apperception. Hegel takes Kant's idea even further and establishes consciousness as the most fundamental aspect of reality. It is important to remember that Hegel differentiates between Consciousness and mind.

Existential Phenomenology challenges the first assumption by focusing his critique on identification of mind with a substance and RTM. The existentialist claims that this faulty presupposition is at the heart of many philosophical enigmas. Hence, by correcting the wrong assumptions, we should *dissolve* many philosophical questions. For the existentialist, consciousness is best understood in terms of empirical existence; and human beings are best understood in terms of unfolding processes. In chapter six, we deal with the view of self as it is outlined in existential phenomenology.

It is not my purpose to provide a survey of the prominent theories. In this project, I argue that substance ontology should be replaced with process metaphysics. Furthermore, I argue that processes are inherently lawful. In fact, there is an implicate order, which is the unifying, the creative principle and the guiding principle of the world-process. This implicate principle emerges as consciousness through the evolutionary process in advanced nervous system. In other words, consciousness is the inflection of the implicate order principle through brain. In this, I assume a non-dual position. I make a distinction between apperceptive consciousness (also called transcendental consciousness), perceptive consciousness (also called empirical consciousness), self-consciousness (also called introspection or attention), and repository consciousness (also called memory). I maintain that these are not different types of consciousness, but these are different manifestations of consciousness in various functions. I use the term *transcendental* in a *Kantian* sense and not a religious sense.

Thus the constructive part of the project is based on three fundamental assumptions:

1) The world is fundamentally made of orderly and creative processes. Here, I do not use creative in a religious sense, but in the sense that the world process is capable of producing and emerging novel forms.

2) Consciousness is the emergent property of the implicate order of the world process.
3) Perception should be understood top-down as well as bottom-up. In other words, representation is not the primary mode of cognition and perception. This point refers to the holistic nature of perception, which requires us to concede that sense data is processed both from the elementary units and parts to wholes and also from whole to parts. Perception is a bidirectional process.

At this point, it is important to say a few words about the methodology of this work. Let me begin by asserting that this project in no way claims to be a historical work. In other words, I do not claim to provide a complete treatment of any of the figures discussed. In fact, I could be wrong about the historical accuracy of the presentation. There are numerous interpretations of any one these thinkers and my specific interpretation could turn out to be wrong. However, this is of no consequence to my project. For instance, I am not interested in exactly what Berkeley claims, but my concern is the view that Berkeley is associated with. Thus, even if I am wrong about Berkeley, my argument still holds for subjective mentalism. In other words, I am not arguing for or against a specific philosopher but a school of thought.

I have tried to make my methodology analytic, as well synthetic. The project aspires to be analytic in that I try to breakdown concepts into their constituents and analyze these components singly and in relation to each other. This project aspires to be synthetic in that I present a constructive theory based on the intuitions of different philosophers and schools of thought. I believe that it is valid to use specific conclusions and intuitions of a specific thinker to forge a new view. Moreover, this does not put one in a corner of having to agree with everything that those thinkers have claimed. This is a common practice in science. For instance, a string theorist in physics can adopt Einstein's theories of relativity without accepting Einstein's rejection of quantum mechanics. I believe that this attitude of all or none in philosophy is a perversion. It is quite all right to accept certain conclusions and intuitions from Kant, Heidegger, and Whitehead without being a Kantian, a Heideggerian, or a Whiteheadian. One can be simply a philosopher.

In summary, my view is:

1) The phenomenal world is best understood in terms of processes and not substances.
2) The fundamental entities of the world are processes, fields, and energy.
3) The world is a lawful creative process.
4) The lawfulness of the world-process can be explained coherently only in terms of an implicate order.
5) An examination of our experience by Kant shows that consciousness is the principle of unity as the transcendental unity of apperception.
6) Phenomenology shows that consciousness is intentional. It means that consciousness is always consciousness 'of' something. Hence, consciousness is the giver of meaning. Consequently, consciousness is the principle of value as well.
7) Consciousness is the principle of action. It is responsible for the appearance and succession of mental states. Furthermore, the will is nothing other than applied consciousness.
8) Consciousness is self-luminous. This means that consciousness is known immediately to the subject.
9) Consciousness as the principle of intelligence, unity, action, and value is the manifestation of implicate, creative and orderly principle of the world-process.

Part One

This part constitutes the critical analytical aspect of the work. It comprises chapter 2 (dualism), chapter 3 (mentalism), chapter 4 (reductive materialism), and chapter 5 (non-reductive materialism). In these chapters, I present the standard theories of mind and consciousness and I provide the supporting arguments for each. This presentation is also historically informed. This is of great importance, since theories do emerge from a historical context and this historical background provides the theories their assumptions and presuppositions. In addition, I provide the arguments, which I believe do provide sufficient grounds for rejecting them.

Chapter Two

Dualism

The dualist view of the nature of consciousness is a product of a fundamental intuition that mind is qualitatively different from matter. Furthermore, no amount of diligent reduction, or logical gymnastics, can be applied to the features of mental life so that they turn out synonymous with material features of the physical world. Hence, there is a radical ontological discontinuity in the fabric of universe. The world is made of two fundamentally distinct and logically independent substances: the mental and the material. Mind and matter exist together in our universe by chance or design, but they are logically independent of each other.

According to the classical dualist view, primacy and ontological priority belongs to the mental substance. Our true and permanent identity is mental in nature. The physical aspect of our existence is impermanent and subject to destruction, division, and decay. It is but a garb that cloaks the spirit. In the dualist terminology, the mind is synonymous with the spirit, the soul, and consciousness; it is indivisible, indestructible, and eternal.[9] The aging, disease, and the death of the body will not affect the soul; it will survive the demise of the body. In fact, I will survive the demise of my body, since I am, first and foremost, a spiritual being. The body is the abode of the soul. Hence, the body is what I have and not what I am.

We can infer that dualism is informed by two powerful intuitions and motivations. One intuition, as mentioned above, is the sense that somehow it feels as if I am more than just a body and I cannot be reduced to a body. My love, hopes, desires, concerns, joy, pain, etc. are not identical, or reducible, to the activities of neurons in my nervous system. Release of neurotransmitters in synaptic clefts between neurons in the limbic system is not all there is to the pain and anguish one feels as one loses a loved one. Electro-chemical activity does not explain the excitement that one feels as one's lover approaches into the clear in a crowded room. Somehow, my hopes and dreams for my future are more than, and in fact radically distinct from, the activity of neurons in my frontal lobe and prefrontal

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[9] Braddon Mitchell, D., Jackson, F., (1996) *Philosophy of Mind And Cognition*, Blackwell Publishers, Oxford UK.

cortex. This view does not rule out the possibility of neural correlates to my hopes, but my hopes and dreams are not identical or reducible to those neural correlates.

For the proponents of substance dualists, it is a matter of chance, or design, that the conscious world is always accompanied by the physical world. However, this correlation does not, in any way, prove that there is only the material world and the spirituality is an illusion, or the product of a deluded intellect. In fact, all natural facts are contingent and not necessary. There is no necessity that the physical world should work in one way as opposed to another. There was no necessity that rational bipeds evolved from the mammalian lineage and not the reptilian one. The evolution of hominids into *Homo sapiens* is a product of interaction between the demands of nature in African savannah and random mutations of genes and haphazard sexual selection in the hominid population. The facts of nature are still facts, but they are contingent nevertheless. The world could have been different, if the initial conditions were different; and the original conditions could have been different. The correlation between the material and mental worlds, according to the substance dualism, is a contingent fact about the natural world.

The second factor, which informs the dualist position, is a religio-psychological motivation. This claim does not reduce dualism to some kind of irrational psychopathology. This is not my position, nor is it my intention to malign this position by a brutal oversimplification. However, all human activities, including scientific and philosophical ones, are informed by human needs to negotiate a better existence in a hostile world. There is no perspectiveless perspective. This point does not make philosophical or scientific inquiry any less valid; it only makes it human and informed by human concerns. In the same spirit, I use the term religious in a broad sense. I do not mean any particular creed, but a human need to ask certain questions: 'who am I?' 'Where do I come from?' 'Where am I going?' 'Is there a sense, purpose, or meaning to this world?' 'Or is this a stupid blunder?' 'Are my struggles meant to accomplish a greater purpose or is this world a senseless veil of tears hiding nothingness and ultimate annihilation?' 'Is there a sense to my individual existence?'

These questions arise from a metaphysical care that all human beings have for their existence. Since our concerns are not only physical, our existence is not just physical. There is a metaphysical aspect to our existence, which refuses all reductive attempts to the

physical. Furthermore, to ask these questions is a necessary feature of our existence. We cannot help but to ask these questions. This act of questioning does not have to be always verbal. It reveals itself in the structures of our daily existence. The goal-directedness of our existence and the metaphysical care we show for who we are reveals the purposefulness and meaning-orientedness of our existence. We cannot help but seek a sense of coherence and meaning to our existence. However, this hope is shadowed by an ominous, insidious intuition of our mortality. At some level, I am conscious of the fact that all my efforts, hopes, dreams, love, etc. can be permanently, meaninglessly, and suddenly be interrupted by a fatal happening beyond my control and comprehension. Death is a constant possibility of life. This represents the danger that all I am, have been, and hope to be, can fade into a meaningless nothingness. This possibility is highly anxiety provoking. Hence, most of us take refuge in predictable routines of a planned and mundane life. However, this mode of existence of being drawn to a purpose and being threatened by annihilation remains a deeply distressing and unacceptable proposition. There must be more to life than mechanics of chemical reactions and mechanical causality. There must be a purpose and meaning to all this. There must be guarantee that my efforts were not futile. My story may not end without a coherent flow, purpose, and a sensible ending. However, am I just a cog, a bag of chemicals, in this causal machinery? Moreover, is annihilation and senseless interruption of my life the inevitable end of all of us? In this case, there is no sense or meaning. It is all a meaningless blunder, but I cannot act purposefully in a purposeless world. Hence, life is absurd. It is a comical tragedy. However, the necessary need for purpose and meaning goes to show that that it cannot be hopeless.

Hope is not an illusion. Meaning is not an illusion. In fact, they are real in an absolute sense beyond this veil of tears and relativism. There is goodness, knowledge, justice, love, etc. The ideals are real. Hence, I am real in an absolute and permanent sense beyond the contingencies of the of the natural and physical world. So, I will continue to exist in eternity after the decay of this temporal-spatial body.

This is a powerful motivation. Maybe, this is the most important motivation that drives human existence. This motivation primarily informed our symbolic thinking. This is a kind of thinking, which manifests itself in mythology, arts, and literature. In my estimation, dualism is the product of expression of this same yearning in the language of

discursive thought. This is the belief that you, as you know yourself through the material conditions, are not the final expression of who you really are.

So, dualism claims that there are fundamentally two types of independent substances in the world: the mental and the material. They are logically independent of each other. The interactionist version of the dualist view asserts that mind and matter, although fundamentally distinct and independent, interact with each other through an interface.[10] The interactionist position states that:

1. Mental events are distinct and different from physical event.
2. Mental events can cause physical events.
3. Mental events can cause other mental events.
4. Physical events can cause mental events.

Parallelism, on the other hand, claims that any interaction between two fundamentally distinct substances is impossible.[11] Hence, the relationship between mind and matter is one of parallel, independent, and covariance. Popper presents a modern version of interactionist dualism. However, he treats consciousness as a process and not a substance. Consequently, he is not substance dualist, but he maintains the independence of the mental realm from the physical realm.

Fig. 2.1: Varieties of dualism (www.commons.wikimedia.org)

2.1 The Platonic Argument for Substance Dualism

Plato seems to be the first Western thinker to provide an argument for the dualist position.[12] However, the dualist position has been a widely held belief. The reason for this popularity, I believe as indicated above, is our fear of the finality of death. If there is a part

[10] Braddon-Mitchell, *Philosophy of Mind and Cognition*.
[11] Maslin, *Philosophy of Mind.*
[12] *Ibid*.

of me that will survive this gloomy prospect, then I shall not be annihilated and I will continue in some substantial way. In fact, what remains is the essence of what I am and what death takes away is a mere shell, a vehicle of worldly experience. This is a very soothing view. It gives hope and comfort. However, comfort and solace do not constitute sufficient justification for holding a view.

Plato believes both that a soul survives the death of the body and that the soul existed before birth.[13] Before the birth of the body, the soul was in the company of the eternal, permanent, and perfect essences and archetypes of all reality, the *Forms*. The Forms are the perfect blueprints of all that exists and they reside in a realm that transcends all sense experience. Human beings come to know the Forms through intellect and a type of intuition. This mental state is called *noesis*. Furthermore, only knowledge of forms constitutes true knowledge.

The relationship between the world of sense experience and the realm of Forms is one of *participation*. Plato does not provide, in any serious way, an explanation of what participation is, but it constitutes the interface between the perfect world of Forms and our world of imperfection. For example, all the objects in the transient world that exhibit beauty do so because they participate in the Form of Beauty, which resides in the eternal realm. For Plato, the soul is like the Forms in that the soul is "divine, immortal, intelligible, uniform, indissoluble, unvarying, and constant in relation to itself." [14]

Plato provides many attempts to prove the existence of the soul, but the common notion between all these attempts is that the soul is an immaterial thing and it captures the essence and identity of a person. However it should be noted that Plato describes the soul as 'the principle of life' in the Republic. This means the soul is that thing that bestows life on all living things. The preponderance of the presentations of the soul is in favor of an immaterial substance, which separates from the body at the time of death and survives as pure consciousness. In this chapter, I will present one argument from Plato, which presents the majority view of what a soul is, according to Plato. This argument is presented in the dialogue Alcibiades I, and it can be presented as such:

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[13] *Ibid*.

[14] Plato, (1961) *The Collected Dialogues of Plato*. "Phaedo." E. Hamilton & H. Cairns, eds. Princeton: Princeton, 80a-b.

1. The use of a tool and the tool used are two numerically distinct and logically independent things.
2. A person is said to be using his or her body.
3. Therefore, a person must be a numerically distinct and logically independent thing from his or her body.

The conclusion of the argument implies that if a person is logically independent from his or her body, then that person must be a non-physical logical substance, i.e., a soul. A close analysis of this argument reveals some flaws, which turn out to be fatal.

The first and the second premise are guilty of equivocating on the term 'use'. The sense in which we 'use' a hammer is very different from the sense of 'using' one's hand to open a cap or bottle. The reason for this difference between the two senses of 'use' is that we stand qualitatively in a different relationship to parts of our body, and indeed our whole body than we do to a hammer or pen. It is true that sometimes when I am immersed in a task I feel as if the instrument of my work is part of me, but one should remember that the tool feels as if it is a part one's body and not actually has become part of the body. The 'as if' points to a metaphysical play on ideas. One's body is an immediate object of one's will, but foreign objects are at least by one step removed from one's will. It is in light of this that Plato's argument is guilty of equivocation between a literal employment of the word 'use' in the first premise and a metaphysical utilization in the second premise.

Another devastating problem with this argument is that it can be used to prove the separation and logical independence of a person from his or her mind by substituting 'using one's body' with 'using one's mind'. This should prove that this argument is fatally flawed and it cannot establish a credible argument for substance dualism.

Plato's philosophy was profoundly transformed by his encounter with the Pythagorean tradition. This influence is evident in *Meno*. This dialogue takes up the question of teach-ability of virtues. Meno opens the dialogue with the question: "Can you tell me, Socrates, whether virtue can be taught, or is it something not taught but acquired by practice. On the other hand, is it neither something practiced nor something learned but comes to exist in men by nature or some other way? "[15]

[15] *Ibid*., Meno, 70a.

At the heart of this question is an ancient puzzle. It is impossible to inquire into what one knows, since one knows that and there is no point in inquiry, nor into what one does not, since one cannot know what the object of inquiry is to be. This conundrum points to an important issue. Knowledge cannot be attained from a standpoint of absolute ignorance. Utter ignorance will not lead to any questions. Since questions are not results of formless curiosity. Questions are formed on the backdrop of some sort of explicit or implicit knowledge or belief. This gives the questions their sense of urgency significance. This background knowledge helps the questioner to determine what would constitute the correct answer. Nevertheless, it would also indicate what would qualify as an answer. This knowledge or belief also helps the agents to diagnose the ignorance and formulate the question. Socrates addresses this issue by introducing the notion of immortal souls and reincarnation into a discussion, which is certainly influenced by the Pythagorean ideas. Socrates claims:

> "They say the human soul is immortal: at one moment it comes to an end, what is called dying, at another it comes to rebirth, but it is never subject to annihilation...and so since the soul is immortal and has been born many times, and has seen everything there is... there is nothing that it has not learned. It is no wonder, then, that has the capacity to recollect all that it formerly knew about virtue and so forth...Inquiry and learning our entirely recollection. " [16]

The fact that we have this implicit knowledge to be aware of our own ignorance and the fact that we can diagnose our ignorance and formulate questions proves that our inquiry and learning is recollection according to Socrates. The fact that we search not only for the correct answers, but we are able to discern what qualifies as an answer proves the fact that we have previous knowledge an inquiry leads to recollection. Socrates tries to convince Meno by conducting an experiment. Meno's young slave is subjected to a series of questions concerning geometrical figures. The boy is believed to have no knowledge of mathematics, but he is able to solve the mathematical problems. Socrates' methodology can be divided in several steps: one, false opinions are subjected to effective questioning and this leads to their refutation of the false opinion. Two, refutation leads to ignorance

[16] *Ibid*., 81.c-d.

and confusion. Three, ignorance and confusion will lead to desire for knowledge. Four, desire of knowledge will lead to inquiry. Five, inquiry would lead to true belief. Six, a perpetual state of questioning about true reasons for one's true belief will lead to knowledge.

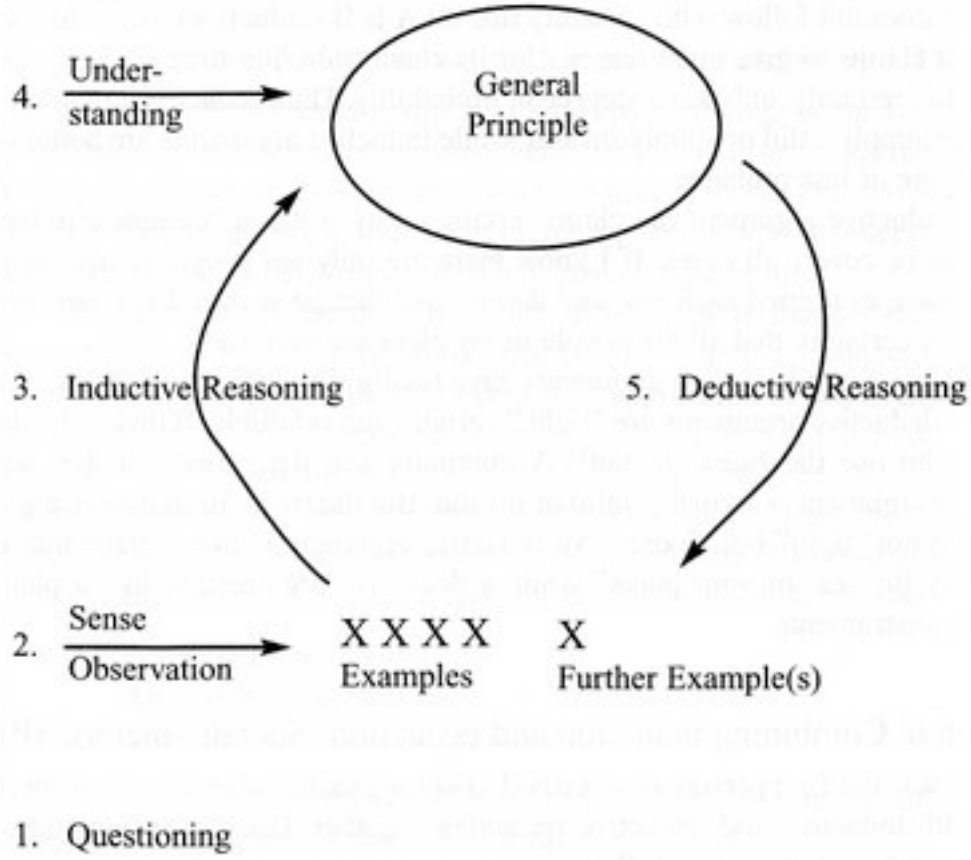

Fig. 2.2: Socratic method (www. socratic-method.blogspot.com)

This methodology is the pathway to attainment of virtues and knowledge. This is wisdom. The philosopher moves from uncovering false beliefs to a state of utter confusion. Bewilderment becomes motivation for search of truth. This motivation provides the philosopher with courage and persistence. Courage would lead to true belief and finally uncovering the grounds for true beliefs would lead to true knowledge. In this sense the Socratic dialectical process is akin to the modern scientific process as illustrated in the following diagram:

Socratic model	Scientific model
1. *Wonder*. Pose a question (of the 'What is X ?' form.	1. *Wonder*. Pose a question.
2. *Hypothesis*. Suggest a plausible answer (a definition or definiens) from which some conceptually testable hypothetical proposition can be deduced.	2. *Hypothesis*. Suggest a plausible answer (theory) from which some empirically testable hypothetical proposition can be deduced.
3. *Elenches*; 'testing' or 'refutation' or 'cross-examination'. Perform a thought experiment by imagining a case which conforms to the definiens but clearly fails to to exemplify the definiendum or vice versa. Such cases, if successful are called counterexamples. If a counterexample is generated, return to step 2, otherwise go to step 4.	3. *Testing*. Construct and perform an experiment which makes it possible to observe whether the consequences specified in one or more of those hypothetical propositions actually follow when the conditions specified in the same proposition(s) pertain. If experiment fails, return to step 2, otherwise go th step4.
4. Accept the hypothesis as provisionally true. Return to step 3 if you can conceive of any other case which may show the answer to be deduced.	4. Accept the hypothesis as provisionally true. Return to step 3 if there are other predictable consequence of the theory which have not been experimentally confirmed.
5. Act accordingly.	5. Act accordingly.

Table 2.1: Comparison between the Socratic method and scientific method

It is essential to point out that, according to Socratic/Platonic view, no knowledge is transferred from the teacher to student. This methodology ensures that the student will uncover the truth for himself. This is possible because to is recollected and not learned. The knowledge of truth is acquired by the soul in its earlier existences. At this point, the question that squarely confronts us is the true nature of this knowledge.

Heraclitus describes most men as wandering around in a dream-like state. They view the world from behind clouded glasses of their sensual experiences. They followed their false beliefs and the considered the illusion as reality. Human beings are urged to wake up and search for reality. The *Eleatic* school presented dialectic method and discursive reasoning as our path to truth.[17] Pythagoreans presented intuition and contemplation of mathematical concepts as truth. Plato synthesizes these two approaches and in the process transcends both. In *Meno*, Plato offered hope from the web of attachment and pleasure and pain. The possibilities have been presented to escape the world of

[17] Kenny, A., (2000) History of Western Philosophy, Oxford, UK.

cravings and sorrow. The theory of recollection provides the means to recover and recollect the knowledge, which leads to salvation. Our souls possess the knowledge of reality but they are trapped in the material world. Here the soul becomes the subject of pleasure and pain hence it suffers. However, memory of the knowledge of reality is available through right questioning. This generates confusion, which would lead to thirst for knowledge. The latter leads to inquiry. Through inquiry true beliefs are formed. The reasons for true beliefs constitute knowledge of reality. Salvation is within reach, but it takes courage to attain it.

The theory of recollection tells us how he came to know it does not eliminate for us the status of the objects of knowledge. This further elaboration is provided by the theory of forms. The theory of forms signifies a profound advance in Plato's philosophy. This theory is first introduced in *Phaedo*. The theory of forms can be summarized as follows: 1) truth cannot be attained by the senses; a process of intellectual reasoning can grasp reality. 2) The forms (Justice, Beauty, and Good etc) are not accessible to the senses. They exist as realities. 3) The world of sense-objects contains likenesses of realities (Equality Itself). The forms have no perfect manifestation in the material world. 4) Our recognition of the forms through their imperfect manifestations is recollection of the forms that become to know before birth by our souls. 5) The forms are eternal and unchanging. 6) The forms are eternal realities, which are instantiated in the material world. Matter manifests the forms by partaking and participating in them. 7) The forms are intelligible. 8) True knowledge is the knowledge of forms. 9) Only the forms can provide satisfactory cause of explanation. 10) Essential property of an entity is those forms in which it participates necessarily. The form in which the entity happens to participate is its accidents. Consequently, any entity can partake in a number of forms. 11) Entities, however, cannot participate in forms, which are incompatible with their essential properties.

That theory of forms is designed to ground the theory of recollection on a firmer metaphysical and epistemological foundation. It introduces a world of eternal realities, which the soul comes to know before its incarnation. The material world contains sensuous images of those eternal realities we can prompt us to remember the eternal realities. The true philosopher is in a state of constant struggle to purify himself of the impurities and distortions of the sensual world. The true philosopher perpetually strives to transcend the

attachments to the pleasures and fears of the pains of the material world. He is in the search of that pure intellect which will take him to that primordial state of knowledge of the absolute eternal realities.

In Symposium, the form that is presented is Beauty itself. Contemplation of eternal Beauty is the ultimate fulfillment of Eros. Eros is the "desire to beget of the beautiful", according to Socrates. If we have the wisdom to refrain from sensual pleasures or even from appreciation and companionship of a beautiful soul and we go beyond the more abstract beauty of a mathematical system, we will ascend to the blissful knowledge of Beauty itself. Beauty exerts a tremendous force on us since it has the capacity to awaken in us the memory of the world of eternal realities, forms. The intuition of Beauty has a unique significance for human beings. Beauty is the ultimate object of desire for its own sake. The intuitive ascent to the realm of Beauty is parallel to ascension to the knowledge of all forms.

In the Republic, the theory of forms is elaborated by three symbolisms: the Sun, the Divided Line, and the Cave. The main idea of these analogies is to introduce the form of Good. The form of Good is the supreme reality of all other forms. It is by Good that knowledge is possible. The Good like the sun irradiates the realm of the forms and it enables us to intuit the nature of the forms. The Good is knowable and it is the source of all knowledge and knowability. Therefore, the Good is the ultimate fulfillment of knowledge. Just as Beauty is the final fulfillment of Eros, so Good is the ultimate fulfillment of wisdom. This parallelism points to crucial fact about human existence and his mission. The love of truth and ultimate reality is the supreme form of love in human existence as well as the supreme form of intellectual activity.

Socrates calls the form of Good in Republic "beyond being in dignity and power" [18]. The form of Good is not just the sun by which light other forms come to be illuminated, but Good is the form of being itself.

Our knowledge and apprehension of the realm of forms is a function of intelligibility of the physical and metaphysical worlds. The visible world consists of two parts. One is the world of shadows, reflections, and other images. Second, there is the world of objects, animals, plants, artifacts etc. This distinction is attributed to our cognitive

[18] *Ibid*., Republic 509.b.

clarity and capacity. Then there is the intelligible realm. This is also divided in two parts. First is the world in which the mind uses visible things as images or representations of intelligible realities and reasons from hypotheses to conclusions. Second, there is a realm in which mind moves from hypotheses to first principle involving no hypotheses, making use of no images, only of forms.

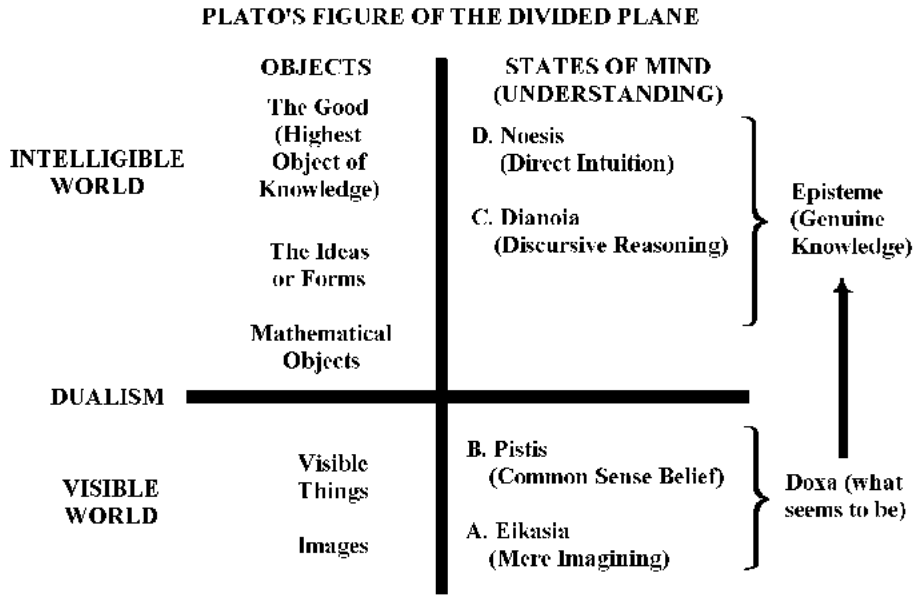

Fig 2.3: Platonic metaphysical and epistemological model (www. 100megsfree4.com)

These four realms stand in hierarchical fashion. The lowest is the realm of shadows and images. Next is the realm of objects and physical entities. Next is the realm of abstractions, mathematical and scientific. The highest level is the realm of forms. The form of Good transcends all because it is the source of being and source of all knowledge. This picture is an image of synthesis of the philosophies of Pythagoras, Heraclitus, and Parmenides into a new philosophy, which transcends them all. The realm of illusions and objects corresponds to the world Heraclitus. This is a world of constant change and transience. This is the world of the relative. In the realm of mathematical and scientific abstractions, we meet Pythagoras. In the realm of forms, we follow Parmenides' footprints on the path to the absolute, being itself. This is the realm of absolute reality, unchanging, and permanent. This is the realm of absolute "being" far from transience. This is the home of permanence. However, Plato surpasses them all by introducing the form of Good that

transcends all that there is. Good is the ultimate reality, source of all, transcending all absolute or relative. It is the origin of being.

There is a corresponding cognitive state for each one the realm of reality. The physical and the metaphysical entities are objects of our comprehension and cognition. These are the four states of mind: *eikasis*, *pistis*, *dianoia*, and noesis. *Eikasis* corresponds to the comprehension of images, shadows, and reflections. It can be described as illusion. This is the state of mind that most humanity finds himself in, according to Heraclitus. *Pistis* is belief and opinion. Our beliefs are derived from our interaction through the sensory filter. Therefore, our beliefs are mostly tainted. Our opinions might happen to be right or wrong but they do not constitute real knowledge. *Pistis* and *eikasis* are both subdivisions of *doxa*, opinion. *Dianoia* is mathematical reasoning and knowledge. The reasoning employed is one that makes the inference from assumptions to conclusions. This is knowledge acquired from discursive reasoning. It outlines the relationship between the assumptions and the conclusion, but it will never ascend to comprehend the ultimate principle underlying the hypotheses. This kind of reasoning is deductive and differential. It is analytic in nature. It breaks down the phenomenon. Therefore, it can never transcend its own methodology. It is trapped in a circle between assumptions and conclusions. It is therefore is unable to comprehend the first-principle. Noesis is the state of mind capable of understanding the ultimate principle. It is not analytic, but it is synthetic. It is not differentiative, but it is integrative. *Noesis* can transcend the physical and reach the metaphysical. The knowledge of this state is that forms including the Good. *Noesis* is pure intellect; it is intuition.

The cognitive states also stand in an ascending order. *Eikasia* is the most primitive since it is illusory and conjecture. *Pistis* is belief with respect to sensory-objects. *Diatonia* is discursive reasoning. In addition, *noesis* is pure intellect and intuition.

Ascension from *eikasia* to *noesis* signifies the assent of human soul from illusion to enlightenment. It is freedom from defilement and the embrace of Good. In Symposium, the ascent is presented with respect to Beauty. *Diatoma* explains that at first the person is deluded and confused not knowing what Eros is. This is a life spent in the shadows. Through interaction, he becomes informed and he forms an opinion about Eros. This comes about by a love affair and Eros experienced for the lover. The next step is to appreciate the abstraction of beauty and love. The person has to rise from individual cases of love to an

abstract realm of love and beauty. The ultimate fulfillment is attained in the contemplation of Beauty itself, however. This is the ultimate object satisfaction for Eros. This is freedom. The same imagery is presented in the Allegory of the Cave. The image of cave represents the ascent of soul from realm of mere images to the realm of visible objects (objects carried along the pathway and the carriers) to the world of forms (the external world) and finally to the intuition of Good (the Sun).

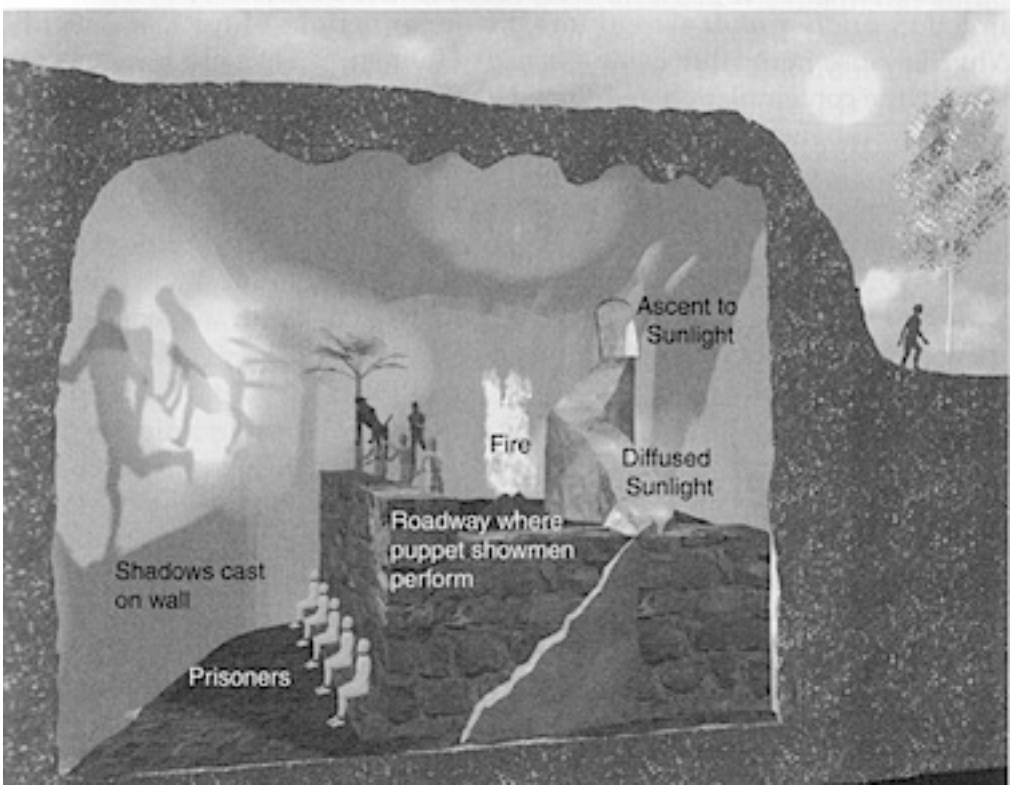

Fig. 2.4: Allegory of the cave (www. iblog.stjschool.org)

2.2 Classical Cartesian Interactionist Dualism

Descartes formulated the standard account of dualistic interactionism. According to Descartes, there are three different types of substances: God who is an eternal substance and two other substances created by God. For Descartes, everything that exists is either a substance or an attribute of a substance. Descartes claims: "By substance, we can understand nothing else than a thing which so exists that it needs no other thing to exist".[19] He claims, "We may thus easily have two clear and distinct notions or ideas, the one created substance which thinks, the other corporeal substance, provided we carefully

[19] Descartes, R., (1955) *The Philosophical Works of Descartes*, Vol. 1, Dover, New York, p. 239-240

separate all the attributes of thought from those of extension."[20] Hence, in the empirical world there are two distinct and logically independent substances: the extended matter and the conscious mind.

Descartes' methodology to determine the true nature of self is based on the necessity to look first for metaphysical self-evident and independently true 'absolutes'. The search for the metaphysical 'axioms' is followed by the establishment of metaphysical 'theorems', which if ordered in a proper manner, will yield an indubitable picture of reality. The way to find these metaphysical axioms is to challenge every belief, regardless of how widely accepted and credible it might be, in order to determine whether it met the test of certainty. Hence, he suspended his beliefs until he could prove them conclusively. Descartes found that there is one thing that he certainly and infallibly knew; and it was that he doubted. This knowledge is so certain that even an evil genius God, who can deceive me about everything, cannot deceive me about my own existence. In other words, I can doubt everything except that I exist, because I must certainly exist in order to doubt that I exist. This realization is capsulated in the term *cogito ergo sum.* The ultimate proof for the existence of a conscious being is not the ability to think but the possibility to doubt its own existence or questioning its own being.

According to Descartes, a person is essentially identical to an incorporeal soul. This incorporeal soul is an immaterial logical substance, independent for its existence from any other entity. A soul lacks the essential property of all material substance, i.e., extension. Accordingly, a soul has neither length, nor width, nor breadth, nor does it occupy a volume in space. It is indivisible, because it lacks extension. In fact, the immortality of soul is explained through its indivisibility, for it cannot decay or perish. Yet, Descartes claims that he is not just a mind: "I have a body which is adversely affected when I feel pain, which has need for food and drink when I experience the feeling of hunger and thirst and so on…."[21] Hence, a human being is best described as an embodied mind:

> "I am not only lodged in my body as a pilot in a ship, but that I am very closely united to it, and so to speak so intermingle with it that I seem to compose with it one whole. For if that were not the case, when my body hurt, I, who am merely a thinking thing, should perceive

[20] Descartes. *Works*, p. 241.
[21] Descartes. *Works*, p. 192.

> this wound by understanding only, just as the sailor perceives by sight when something is damaged in his vessel…."[22]

For Descartes, the essence of mental substances is consciousness, thought, or *res cogitans*. In the Meditations, the notion of *res cogitans* is more clearly illustrated:

> "Thinking is another attribute of the soul; and here I discover what probably belongs to myself. This alone is inseparable from me. I am – I exist: this is certain; but how often? As often as I think; for perhaps it would even happen, if I should wholly cease to think, that I should at the same time altogether cease to be. I now admit nothing that is not necessarily true: I am, therefore, precisely speaking, only a thinking thing."[23]

It is clear that thinking is not merely a property of the soul, but its essence. An essence is that which makes a thing what it is, and in this sense, it is necessarily indispensable to it. Consequently, 'soulness' and consciousness are identical. An unconscious soul is a logical impossibility. It is also important to note that thinking and consciousness refer to the same thing. Thinking includes experiences of sensation, perception, emotional states, conative states such as willing and wanting, and all intentional states such as doubting, imagining, understanding, believing, etc. The soul has two basic powers "one of which consists in . . . the operation of will": *volition*. [24] The other faculty is *understanding*, through which human beings seek truth.

Understanding is composed of two aspects. First, there is thinking, which cognizes the world as it actually is. Second, there is sensation, which perceives the world through the attributes of its material substances such as colors, odors, sounds, and textures. Here, we face the first problem with Cartesian dualism. It is unclear how the mind knows its objects, while they are substantially different from it. It is uncertain how the mind can make sense of the world and the world can invade the mind. Here, Descartes introduces a linking principle to overcome the gap. Ideas provide this link in that they are simultaneously states of mind and a true representation of the objects in the world. In other words, an idea is a state of mind, which stands in a causal relationship to the objects of the

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[22] Descartes. *Works*, p. 192.
[23] Descartes, R., (1986) *Meditations*. London, Everyman, p. 88.
[24] Descartes, R., (1931) *Philosophical Works of Descartes: Volume I. "Discourse on Method"*. Trans. Haldane & Ross. Cambridge: Cambridge. 223.

world. "Ideas are so to speak, images of the things . . .; examples are my thought of a man or of a chimera, of heaven, of an angel, or of God . . ." [25] Hence, an idea is true, because it corresponds to an object in the external world. This truth through correspondence is sheltered from deception and illusion through the guarantee of a benevolent God, who would not let me be deluded about anything, the nature of which I understand so clearly and distinctly. For example, the idea of a triangle, which I know so completely is an idea put in my mind by God, while none of my experience of any triangle can give me that idea so clearly and distinctly. Hence, our ideas of all simple entities, or natures, are innate ideas furnished by God

Descartes idea of perception

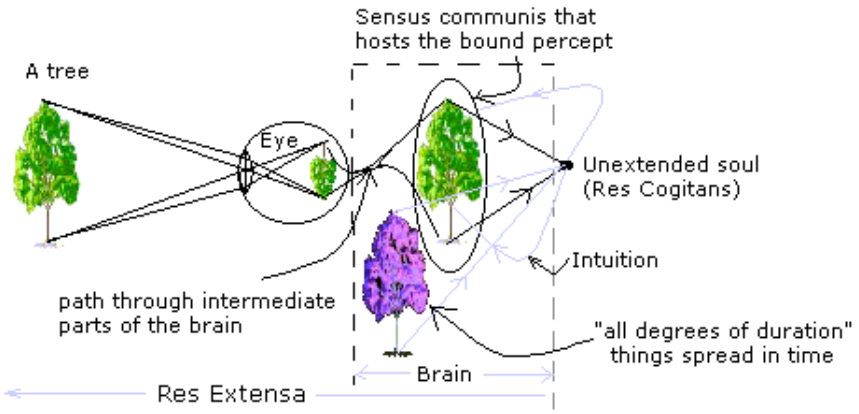

Fig.2.5: Cartesian theory of Perception (www. newworldencyclopedia.org)

Descartes ascribes less reality to objects of sense perception, because it is *understanding* that deals with the essence of material things, extension. Perception deals with the properties of material substance. Thus, the knowledge acquired from sense perception is inessential. This knowledge is the product of the object acting on our sense organs. Knowledge through sense perception is useful for daily activity, but it should not be expected to give us essential and substantial truth. Its value is that it can distinguish harmful from hurtful causes. Sense knowledge has pragmatic importance.

[25] Descartes. *Works*, p. 159.

The nature of material substances is extension. Hence, material bodies are called *res extensia*. The material world is composed of matter in motion. This motion is achieved through contact. In other words, the cause of all physical effects is pieces of matter bumping into each other. All change can be explained in terms of local motion of particles in relation to each other. Properties such as colors, sound, odor, and texture are not essentially properties of the object, but they are merely impressions produced in us by the action of material particles on sense organs. This is a causal relationship. "The nature of matter or of a body in its universal aspect, does not consist in its being very hard, or heavy, or colored, or one that affects our senses in some other way, but solely in the fact that it is a substance extended in length, breadth, and depth . . ." [26]

As we have seen, mind and matter reside in two completely separate and independent realms. We also saw that the faculty of understanding presents a major problem for Descartes, in that it was not clear how an immaterial mind could make any sense of the material world, while the two are so different from each other. To solve this problem, Descartes introduces the notion of 'idea'. Now, ideas are mental states, which can truly represent the objects of the world, and a benevolent God guarantees this truth. This is, however, not sufficient, for still a physical counterpart to 'ideas' is necessary to locate this interaction between the mental and the physical realm. It is important to note that sense perception can be explained if, and only if this interaction is presupposed. Somehow, there has to be a causal interaction between the mind and the brain so one can have experiences in the world.

As it was mentioned above, the material world is 'located' in space and its essential characteristic is extension, while the mental world is non-spatial and it is essentially consciousness. However, both of these realms are 'located' in time. They are both temporal. The difference is that the temporality of matter is finite and the temporality of mind is infinite. Consequently, time provides the intersection between the two realms. This intersection leads Descartes to infer an interaction between the two realms. Despite the radical separation of the two realms, Descartes believes that mental causes can yield material effects and vice versa. For instance, stepping on a nail (material) can produce pain (mental), which in turn prompts the victim to utter a sound (material). This claim

[26] Descartes. *Works*. 255.

corresponds to the empirical data that various brain states lead to a variety of bodily movements and the bodily movements causally affect brain states. According to Descartes, the mind-brain interaction can be pinpointed to one point of immediate contact. Through this point, the causal effects of the mind are carried to all parts of the body and the causal effects of the body are transmitted to the mind. The location for this causal interaction is the pineal gland:

> "It follows that the soul is really joined to the whole body, and that we cannot, properly speaking, say that it exists in any one of its parts to the exclusion of the others . . . because it is of a nature which has no relation to extension nor dimension, nor the properties of the matter of which the body is composed, but only to the conglomerate of its organs . . . It is likewise necessary to know that although the soul is joined to the whole body, there is yet in that a certain part in which it exercises its function more particularly than in all other . . . In examining the matter with care, it seems as though I had clearly ascertained that [this] part . . . is . . . a certain very small gland which is situated in the middle of [the brain] and so suspended above the duct whereby the animal spirits in its anterior cavities have communication with these in the posterior, that the slightest movements which take place in it may alter very greatly the course of these spirits; and reciprocally that the smallest changes which occur in the course of the spirits may do much to change the movements of this gland."[27]

The pineal gland is a pea-sized organ in the human brain, situated caudal to the *corpus callosum*. Modern neurosciences have determined that its function is the regulation of night and day rhythms based on exposure to sunlight. One curious fact about the pineal gland is that it is the only symmetrical organ in the brain, which has not been divided in two lobes. This could be one reason that this organ grabbed Descartes' attention. Another reason could be that the pineal gland is light and relatively mobile, and so it would be susceptible to movement by the soul. It seems, however, that Descartes failed to follow his own recommendation of suspending judgment until truth can be approached clearly and distinctly. He had no evidence for the designation of the pineal gland as the seat of perception, and it seems quite arbitrary. In any event, the pineal gland is where all perceptions of the world are formed. It is the seat of 'ideas', and so it is the interface between the mental and the material realms. The interaction between the mind and the

[27] Descartes, *Discourse*, pp. 5, 7 - 9, 14 –17, & 22.

body, in the pineal gland through formation of 'ideas', is explained through the 'principle of substantial union'. According to this principle, this interaction occurs through the *intermingling* of mind and body.

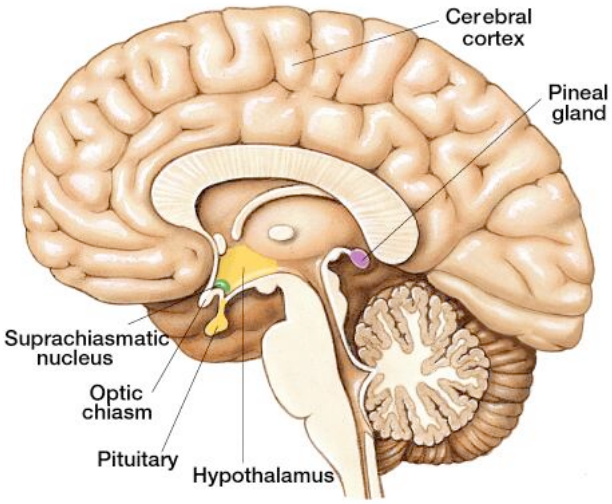

Fig. 2.6: Pineal gland (www. humanityhealing.net)

The theory of interactionist dualism can be summarized as: 1) there are material and mental substances. 2) Mental substances are very different kind of substances from material substances. Mental substances are non-material things like pure souls. 3) Mental and material substances causally interact. The question that arises at this point is whether this theory is reasonable. The interactionist part of the theory seems to be reasonable and even truistic. It seems reasonable to think that my desire to alleviate my hunger causes me to walk to the kitchen and prepare something to eat. Equally, it is reasonable to assume that the grumbling of my stomach causes me to feel hungry. However, what about the dualist part of the theory?

Descartes provides three main arguments in defense of soul substances:

1. Argument from doubt.
2. Argument from clear and distinct perception.
3. Argument from divisibility.

Descartes presents the *argument from doubt* as such after he, supposedly, has established *cogito ergo sum*:

> "I then considered attentively what I was; and I saw that while I could feign I had no body, that there was no world, and no place existed for me to be in, I could not feign that I was

> not; on the contrary, from the mere fact that I thought of doubting about other truths it evidently and certainly followed that I existed . . . From this I recognized that I was a substance whose whole essence or nature is to be conscious and whose being requires no place and depends on no material thing. Thus this self, that is to say the soul by which I am what I am, is entirely distinct from body, and is even more easily known; and even if the body were not there at all, the soul would be just what it is."[28]

The formalization of the argument from doubt yields:

1. I can doubt that my body exists.
2. I cannot doubt that I exist.
3. Therefore, I must be separate, different, and logically independent from my body.

Here, he argues that he cannot doubt that he thinks and he is a conscious being. On the other hand, he can doubt that he has a body. Hence, he concludes that having a body is not essential to his existence, while having a mind is essential.

To evaluate this argument, we need to clarify what Descartes means by 'thought' and 'doubt'. As we discussed above, he uses thought to describe all mental states, events, and processes. However, what he means by 'doubt' is the logical possibility of a false belief. It means that we can doubt a belief, if it is logically possible that our belief is mistaken. Seeing a snake in the dark can be doubted, because it is logically possible for the belief to be false. Hence, a statement S is doubtful, if it is logically possible to be mistaken in believing S. On the other hand, S is indubitable, if it is logically impossible to believe S and be wrong about it. Hence, the first premise states that it is logically impossible for him to be mistaken about the belief that he is a thinking substance. While, in the second premise it is stated that it s logically possible for him to believe falsely that he has a body, and is a material substance. The question is whether his conclusion follows from his premises.

The conclusion that: 'I am essentially a thinking thing, and having a body or being a material thing, is not essential to my being what I am' seems to assume that there is a link between what is indubitable and what is essential. However, this is a mistake. The argument amounts to saying that 'I cannot doubt the existence of X' and 'I can doubt the existence of Y'. Hence, 'X is not identical to Y'. This is clearly invalid.

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[28] Descartes, R., (1970) *Philosophical Writings*. Trans. Geach & Anscombe. New York: Nelson, p. 32.

Another problem with the *argument from doubt* seems to be that it confuses the concepts of intension and extension. The intension of a term is its meaning, its sense. The extension of a term is its reference in the real world. It is the set of all objects in the world, which can be subsumed under that meaning. In other words, it is the set of all objects that the intension picks out in the world. For example, the intension, or meaning, of 'bachelor' is 'an unmarried man'. The extension of bachelor is all the unmarried men in the world. Another important fact is that the extensions of a term do not have necessarily the same intension. What they have in common is that they refer to the same object. For example, Morning star does not mean Evening star, but both terms refer to the same object, Venus. The problem is that just because one does not know all the extensions of a term, one cannot assume that they do not refer to the same object. This is the point that Descartes fails to realize. This mistake can be illustrated by the following argument:

1. Bob knows Venus to be the brightest star that illuminates the evening sky at dusk, the Evening star.
2. Bob does not know Venus to be the brightest star that illuminates the morning sky at dawn, the Morning star.
3. Therefore, the Morning star and the Evening star are not identical.

Clearly, the lack of knowledge with respect to all the members of a set of extensions of any term does not warrant the claim that any two of the terms, in that set, do not refer to the same term. In other words, just because Descartes is not aware that he and his body and mind are identical, it does not mean that he can assert the existence of one without the other.

The next objection is a reformulation of the concern in the first objection, but using 'mental state' language and properties. The objection is that arguments that use intentional states – such as 'believing', 'doubting', 'knowing', 'understanding', 'imagining', and so on – cannot be successfully employed in establishing the non-identity of two terms. The reason for this is that intentional states are 'about' things. This 'about-ness' is because they have representational content. Furthermore, this 'about-ness' is 'aspectual'. This means that the same content can be represented under different aspects. It follows that just because one knows an intentional object, or representation content, under one description

or aspect, and not others, it does not mean that the two aspects are not representations of the same content or object.

The last objection to the *argument from doubt* is that it is simply circular and it begs the question it seeks to resolve. Descartes, already, assumes that his body and mind are separate. The assertion that one can doubt the existence of one without the other is nourished by that presupposition, and it is made in light of that presumption.

The *argument from clear and distinct perception* is presented in the Sixth Meditation:

> "I know that whatever I clearly and distinctly understand can be made by God just as I understand it; so my ability to understand one thing clearly and distinctly apart from one another is enough to assure me that they are distinct, because God at least can separate them . . . Now I know that I exist, and at the same time I observe absolutely nothing else as belonging to my nature or essence except the mere fact that I am a conscious being; and from just this I can validly infer that my essence consists simply in the fact that I am a conscious being. It is indeed possible . . . that I have a body closely bound up with myself; but at the same time I have, on the other hand, a clear and distinct idea of myself taken simply as a conscious, not an extended, being; and on the other, a distinct idea of body, taken simply as an extended, not a conscious, being; so it is certain that I am really distinct from my body, and could exist without it."[29]

The formulation of this argument looks like this:

1. I have a clear and distinct understanding of myself as a conscious, but not an extended, thing.
2. I have a clear and distinct understanding of my body as an extended, but not a conscious, thing.
3. Therefore, I can clearly and distinctly understand myself as a non-extended conscious thing apart from the extended body, and I can clearly and distinctly understand my body as an extended nonconscious thing apart from myself as a conscious thing.
4. God can bring about whatever I can clearly and distinctly understand.
5. Therefore, God brings it about that I, as a conscious non-extended thing, can exist apart from my extended, nonconscious, body.

[29] Descartes, *Writings*, pp. 114 – 5.

Descartes heavily relies on his concept of God in inferring the conclusion of this argument. The reason for this reliance can be understood by our discussion of 'ideas' previously. Remember that the 'ideas' are mental states, which represent the objects of the world. They are the interface between the mind and world. The truth of these ideas is the function of their clarity and distinctness. There are some ideas, which are so clear and distinct, that nothing in the imperfect world can take away from their truth, such as the idea of a triangle. This is a semi-platonic notion. Consequently, since these ideas cannot be inferred from the world, they must be innately with us. They are gifts from God. Since God is benevolent, God's gifts must be true. Therefore, the innate ideas are the truest and the most clear and distinct of our ideas. Descartes believes that the clarity and distinction by which he can conceive of the Separability, and independence, of him from his body prove the truth of this conception, because it is guaranteed by God's benevolence.

Descartes presents God as the guarantor of his clear and distinct ideas. This presupposes that he can prove the existence of this guarantor. Descartes' proof for the existence of God can be stated as such:

1. Everything, including our ideas, must have a cause.
2. Human beings have an idea of God.
3. Only God is perfect enough to cause the idea of God.
4. Therefore, God exists.

Descartes illustrates the above argument in the following passages:

> "[The] idea . . . a stone cannot exist in me unless it has been placed within me by some cause, which possesses within it at least as much, reality as that which I conceive to exist in the . . . stone . . . Although it maybe the case that one idea gives both to another idea, that cannot continue to be so indefinitely; for in the end we must reach an idea whose cause shall be so to speak an archetype, in which the whole reality which is so to speak objectively in these ideas is contained formally."[30]

The problem with this argument is that it assumes we have a clear and distinct idea of God, while a tremendous amount of credible religious traditions and scriptures contradict it. God's nature is usually presented as beyond all conception and ineffable in one sense or another. Even if we had a clear and distinct idea of God, this does not necessarily mean

[30] Descartes, *Writings*, p. 347.

that God is the cause of this idea. This proof is another version of Anselm's Ontological Argument. Hence, it falls to the same objections raised against the former. Consequently, it can be proposed that Descartes' reliance on the idea of God is not justified by the proof he is providing. At this point, let us turn our attention to the first part of the argument.

Earlier we established, in our discussion of the argument from doubt, that no intentional state can be used as evidence in the construction of an argument that denies the identity of two items. The reason for this is that intentional states are characterized by 'about-ness'. This means that they have representational content. Furthermore, this 'about-ness' is 'aspectual'. This means that many items can fall under the same representational content. Well, perception and understanding are intentional states and *a fortiriori* 'aspectual'. Hence, they cannot be used to prove the non-identity of any two items.

Argument from Divisibility can be stated as such:

1. The body is divisible into parts.
2. The mind is not divisible into parts.
3. Therefore, the mind must be of an entirely different nature from the body. The mind is essentially non-material.

The problem with this argument is that both of its premises can be proven false.

Not all matter is divisible. Modern physics has shown us that some elementary particles, such as photons and electrons, are irreducible and non-divisible. This clearly contradicts premise one. Another problem is that although qualitative states, such as pains and itches, are not divisible, some intentional states are divisible. For example, belief structures of knowledge can be broken down into smaller and atomic components, such as individual beliefs.

In our logical analysis of the arguments for dualistic part of the theory, it seems reasonable to assume that none of the arguments really works. However, one might assume that such proof exists not in the form standard logical proof, but in the form of empirical data. Specifically, it can be claimed that the *out-of-body* experiences might provide such evidence. These are the cases, in which the patient is pronounced clinically dead by the attending physician, but after a while the person 'comes back to life'.[31] These patients occasionally report that they left their bodies that they float over their bodies that they

[31] Maslin, *An Introduction to Philosophy of Mind.*

could observe the events in the room as they happened, and that they could even observe their own bodies lying on the bed. However, they report that they could not interact with anybody in the room. Finally, they report that they returned to their bodies and they were revived. These cases should be taken seriously and they cannot be rejected without consideration.

Out-of-body experiences seem to provide evidence for dualism, because the thing that leaves the body seems to be conscious; and it seems to have mental states independent of the body. This can only be an immaterial soul. These reports also seem to prove the survival of the soul after the death of the body, and hence the immortality of the soul. They are, however, some valid criticism against this argument. One objection is that the patient may not be dead, even though he is pronounced dead by the attending physician. It is quite possible that the individual is in a state that brain activity is so weak that it cannot be monitored by our instruments. The instruments are not simply sensitive enough. Hence, the proper description of these experiences is *near-death* experiences, and not *out-of-body* experiences. Another possibility is that the brain engages in some activity similar to what happens in dreams, when the sense of self is projected to some other location.[32] These objections are not conclusive, but they provide an alternative and simpler explanation of a phenomenon. This is all that is required of an objection.

2.2.1 Some Objections:

At this point, we should decide whether interactionist dualism obtains. This question can be answered only in light of five traditional objections toward interactionist dualism. There are three philosophical and two scientific objections to this theory.

I. The first philosophical objection poses the question: where does interaction occur? According to dualist interactionism, mental events causally interact with brain events. This implies that the interaction occurs *in* the brain. This entails that, since two causally related events are located where the interaction happens, mental events are located in the brain. However, interactionist dualism denies mental substance and events have any extension. This means that mental events have no spatial properties. Mental events are temporal, but never spatial. Consequently, the doctrine seems to be self-contradictory. It

[32] *Ibid*.

seems that interaction requires mental events to be in the brain, while it is denied that mental events can have spatial properties.

A possible solution is to deny that causally related events must be located in the same place. This point is reinforced by empirical data from physics, which makes action at distance quite plausible and possible. An example is the gravitational force between heavenly bodies. The problem is that even in the case of action at distance the two bodies occupy a location. It is true that the location of the two bodies is not adjacent, but there is a location nevertheless. The point seems to be that causal interaction requires some location. However, mental substance cannot have any location. The only possible response is to resort to some form of mysterianism.

II. The second philosophical objection poses the question: how can interaction come about? The interactionist dualism insists that mental events and brain events are fundamentally different kinds of events. This implies that they have different kinds of causal powers. In the material realm, causal effect is achieved through exertion of force from one object to another. Now, this force is defined in terms of mass and acceleration. Therefore, any object that exerts force on a material object must have mass and it must be capable of acceleration. However, mental substances have no mass and they are not capable acceleration, because they cannot travel a distance. Consequently, mental substances cannot causally affect material substances, since they cannot exert physical force.

One defense for the interactionist position is to differentiate between proximate and other types of causes and to claim that mental substance act as proximate causes of material events.[33] One event is a proximate cause for another event, if there are no intermediary steps on a causal chain between the two. Here, the first event immediately affects the second event without a third, or fourth, event separating them. The point is that a proximate cause should be taken as brute fact, because there is no way to explain it. Usually, one can explain an event through the intermediary events that led to it. Hence, explanation is possible only through remote causation and not approximate causation. For example, the heating of water causes the pressure to rise inside the container. This can only be explained in terms of the intervening steps of increased kinetic energy of the molecules, the change in

[33] Ducasse C J, (1991) *In Defense of Dualism*, in S. Hook, ed., *Dimensions of Mind* , Collier Books, New York, p. 88.

the velocity of the molecules, and the rapid displacement of the molecules. If there were no intervening steps, then the increased pressure due to heating could only be taken as a brute fact. The same holds for mental causation. The mental events should be taken to be the proximate of material. Hence, they should be taken as unexplainable brute facts.

The problem with this solution is that it compounds the mystery. Now, we have immaterial mental events, which have no spatial property, or any property, which enables them to exert physical force, causally interacting with material events in an ineffable and inexplicable manner. Another problem is that how is this proximal interaction verifiable, observable, and predictable in any meaningful scientific way. In other words, the notion of proximate causation falls outside the scientific scope, since it lacks any explanatory power. Hence, it is mysterious and unreliable.

III. The third philosophical objection is formulated in terms of the *problem of other minds*. If, as interactionist dualism claims, the mind is a fundamentally different kind of substance from body, then it becomes impossible to justify the common sense belief that there are other beings with mind. However, ascribing mental states to others seems to be commonsensical and intuitively correct. There is nothing in our interactions, which would lead us to believe that others are automata. The consequence of this problem is that there is no way to determine that there are *persons* in the world. All I can observe and verify is physical behavior and physical states. However, bodily states are radically different from mental states. Hence, observation of physical states does not prove the existence of any form of mental life. Furthermore, there is no way to verify whether the physical states are accompanied by mental states in others, while I can do that for myself. However, this seems to be quite counter-intuitive.

The objection toward interactionist can be stated as such: if the interactionist dualism is right, then no statement about physical states entails a statement about mental states. Consequently, I cannot use any deductive argument based on my perception to justify the existence of other minds. For that reason no premise about my perception entails conclusions about other minds. Moreover, the only cases, in which I know that that mental states complement physical states is my own experience. However, my own experience can never provide sufficient evidence for the conclusion that other physical states are also accompanied by mental states. Hence, there is no inductive argument, which can justify my

belief in other minds. The overall conclusion is straightforward. If interactionist dualism is right, there are no deductive, inductive, or non-inferential perceptual ways to prove the existence of other minds.

Up to now, we raised philosophical objections to interactionist dualism. However, interactionist dualism has to answer the charge of science as well. Hence, we turn to two major scientific objections of interactionist dualism.

IV. The first scientific objection is that interaction violates the principle of conservation of energy. This principle sates that the amount of energy in a closed physical system remains constant. However, provided that dualism is correct, if there is a causal relationship between the mental and the material, this principle is violated. When some material event causes a mental event, the physical energy involved in the material event is not transferred to anything else. Hence, the energy is lost. Conversely, when a mental event causes a material event, the gained or lost energy by the resulting material event has not been transferred to anything material in a way that the amount of the energy changes. All this means that any interaction between the mental and material events, as they are defined in interactionist dualism, violates the conservation principle.

A possible solution to this problem is to deny that all cases of causation involve transfer of energy. If "energy is meant to designate something experimentally measurable then "energy" is defined in terms of causality, not "causality" in terms of transfer of energy. That is, it is not known that all causation or, in particular, causation as between the psychical and physical events, involves transfer of energy.[34]

This response reflects an important truth that nothing in the definition of causation entails that all cases of causation should include transfer of energy. Hence, it is logically possible for some cases of causation between mental and material events not to involve transfer of energy. The question is, then, should we accept or reject this logical possibility, if the Ducasse's definition of energy is correct. Modern physics seems to have assigned a much more fundamental role and definition to energy than it is assumed by Ducasse. Energy stands as the brute fact in physics along with time and space. This means that all material events are explained in terms of time, space, and energy. Hence, it is quite unlikely that the scope of any material interaction can fall outside of energy.

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[34] Ducasse, *In Defense of Dualism*, p. 88-89.

V. The next scientific objection is based on the structure and function of nervous system. From a physiological standpoint, it seems that there is no place for mental causes for human behavior. Broad states this objection as:

> "It is admitted that the mind has nothing to do with causation of purely reflex actions. But the nervous structure and the nervous processes involved in reflex actions; they differ only in degree of complexity. The variability, which characterizes deliberate action, is fully explained by the variety of alternative paths and the variable resistance of the synapses. So, it is unreasonable to suppose that the mind has any more to do with causing deliberate actions that it has to do with causing reflex actions."[35]

According to this argument, physical events can be fully explained in terms of physical chain of events. This means that material events provide a sufficient condition for the presence of each other. There is no explanatory or causal gap, in the material world. Hence, there is no need to postulate immaterial causes to explain material events.

At this point, it seems reasonable to assume that interactionism has failed to provide a coherent account of its version of dualism. Hence, it is equitable to reject interactionism. However, we should mention the lingering influence of Cartesian dualism on subsequent theories, especially materialism. Dennett makes this point explicit, when he claims that many materialist theories postulate a central place where consciousness exists and someone for whom consciousness exists. Dennett believes that this is dualism in hiding. He calls such views Cartesian materialism. If a theory postulates some type of metaphysical space, in which conscious experiences happen and where "it all comes together and consciousness happens"[36], then that theory is implicitly Cartesian.

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[35] Broad C. D., (1962) *The Mind and Its Place in Nature*, London, Routledge and Kegan Paul, p. 110.
[36] Dennett, D. C., (1991) *Consciousness Explained*, Boston and London: Little, Brown and Co., p.39

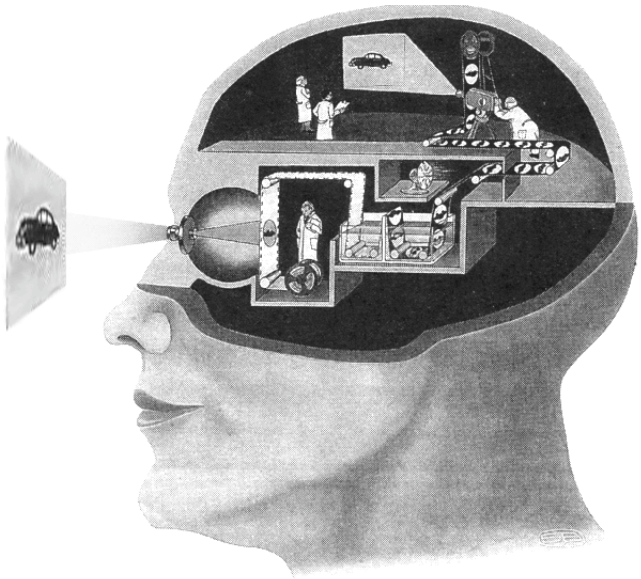

Fig. 2.7: Cartesian theatre (www.sharp.bu.edu)

At this point, the question is whether substance dualism can be salvaged in any other way. Two historical attempts at saving dualism by sacrificing interactionism were the parallelism of Malebranche and Leibniz. However, we turn first to Spinoza's critique to Cartesian dualism and his substance monism.

2.3 Spinoza's substance monism: A Cartesian critique

Spinoza's notion of monism is formulated in the proposition 14 of his *Ethics*[37]. According to this proposition, 'there can be, or conceived, no other substance but God'. The significance, or lack thereof, of this proposition clearly depends on his definition of substance. From the Cartesian perspective, there are two distinct notions of substance. According to one sense, a substance is that which is independent of all else. This is a strict sense of the term and it applies to God only. God is independent of all else in that the existence of God can be explained by the essence of God. There is no external factor that needs to be appealed to for explanation of God's existence. This notion of grounds for existence is intimately tied with the concept of causality. When one claims that God's existence is explained by God's essence means that God has no external cause. The second sense of the concept of substance, according to Spinoza, is looser. All finite matter and

[37] Spinoza, (1969) *Ethics*, translated by Elwes, H. M., Bell, London.

minds are also substance since *modes* inhere in them. The difference in the notions of substance has tremendous implications for Spinoza's argument. Application of the second notion of substance (the looser definition) reduces Spinoza's proposition into inconsequential colloquial point. According to this interpretation, he is making a recommendation about the usage of the concept of substance with respect to God and other entities in the philosophical discourse. This sounds more like call for a change in linguistic conventions than a serious philosophical claim. Therefore, this option seems unlikely since it is assumed that Spinoza is attempting a serious philosophical claim. This statement is not just based on the principle of charity, but the fact that Spinoza is considering everything in the universe as a mode of God. This claim is radically divergent from the Cartesian position. Therefore, Spinoza is using the strict sense of substance. He claims that there is no substance other than God. This is due to the fact that God possesses all attributes (infinite number of attributes), and no two substances 'can share the same attributes'. Therefore, there is only one substance and that substance is God, because God exists. The validity of this argument is determined by a close inspection of the concepts of mode, attribute, and substance. It also depends whether Spinoza proves the existence of God.

A substance is 'in itself' and conceived through itself. This means that a substance is independently conceived and its concept is not dependent on any other concept. The nature of a substance is intelligible through its attributes. No external factor is necessary to explain the nature of the substance. This conceptual independence, for Spinoza, translates into independence from an ontological perspective. Therefore, since a substance is conceived independently from everything else, it exists independently from everything else as well. A substance is not caused by anything else. It is self-caused, because it is self-conceived. The explanation for the existence of a substance is not found externally but internally. 'The existence of a substance' belongs to the essence (the nature) of the substance; hence a substance is necessarily self-caused. Here Spinoza radically diverges from the Aristotelian notion of substance. According to Aristotelian tradition, entities such as humans, cows, cars, trees, etc. are substances in which attributes inhere. This also a departure from the Cartesian system, in which substance, although considered the fabric of ultimate reality, is manifold (God, finite minds, and matter) and they are independent from everything else. Spinoza holds that the Cartesians were right in diagnosing substance as the

ultimate reality, but they were wrong to believe that substance is many and they were nearsighted by not seeing the implications of independence of substance. That implication is that substance is self-caused and necessary.

Aristotle distinguished between attributes and substances. Spinoza gives an attribute a whole new definition and distinguishes between modes and substances. Modes exist in other things. This means that modes are dependent for their existence on other things. The existence of a mode can only be explained by an external factor; modes are caused by other factors. Therefore, they are contingently existent and other-caused. For Spinoza, modes are not just properties, but individuals are modes as well. Therefore, all the people, animals, and all entities in the universe are modes, because they depend for their existence on another factor, namely God. Our existence is contingent on the existence of God and the will of God. Our existence is contingent, because our concepts are not necessary. In other words, it is conceivable for us not to exist. Our existence does not belong to our essence. This definition of mode is hence broad for it includes properties, individuals, facts, relations, and processes. Modes exist in substance and they depend for their existence on substance. This means that substance is logically prior to modes, because without the substance the mode can't be conceived and it doesn't exist.

An attribute is ' a way of conceptualizing the nature (essence) of a substance'. Does this mean that the attributes of a substance are subjective projection onto the substance? An attribute is our intellectual perception of what a constituent of the substance is. This means that what we consider as attributes of substance is limited by our intellectual abilities or limitations of intellectual abilities. But this does not mean that attributes are fabrications of our minds. The attributes are a reflection of what we can conceive. Therefore, the attributes are real and not fabricated. The attributes are different ways of intelligibly describing the essence of substance. The claim that a substance has two attributes means that the substance is conceptualized in two different ways. In the Cartesian tradition, there are two principal attributes: thought and extension. Attributes of the substance are not available through an empirical investigation of the senses but the attributes are revealed to the intellect solely through a process of abstraction. An attribute of a substance constitutes its essence. Spinoza follows Descartes' suit by accepting that substance has two attributes, namely extension and thought. This means that God has two attributes: thought and

extension. Accordingly, God' essence is perceived by us in two distinct and independent way, as material and mental. Our physical sciences are as much the study of divine nature as our inquiries in the realm psychological and spiritual. These two constitute two distinct and independent inquiries. One cannot be substituted by another. An analogy might help. The nature of light can be perceived either as waves or as particles. There are corresponding equations for either approach and both approaches are equally correct. But neither explanation can replace the other. In the same manner God's nature is perceived and understood by a material investigation or a mental investigation. There are both equally valid. These raise a concern at the first sight. Does this imply that God has two, and only two, attributes? If the answer is affirmative then it is possible to conceive of an additional attribute that God hasn't. This would imply that there would be another substance independent of God hence there is no monism. Spinoza in his premises for proposition 14 covers this basis by saying that God has all attributes even if they are infinite. This claim then implies that there are infinite ways to conceptualize the nature of God, but our conceptual machinery allows two ways, namely material and mental.

A further claim set forth by Spinoza is that no two substances can share the same attributes. The reason for this as following: attributes distinguish between the substances. This distinction of substantial based on attributes is due to the fact that attributes constitute the essence of a substance. For two substances to share the same attribute is to be indiscernible. This implies plurality and plurality excludes necessary existence since it implies being caused by another factor. But God is conceived as self-caused. God' nature determines its existence. Therefore, God exists necessarily. An objection to this line of argumentation by Spinoza can be introduced. A round square 'cannot be caused to exist by anything else' therefore, 'it must be self-caused', and hence it must exist necessarily. Spinoza would argue that a round square is an idea and therefore it is a mode. A round square is not a substance. Ideas can be wrong when they don't correspond externally to facts and when they are internally inconsistent and contradictory. The correctness of ideas depends on the aforementioned factors and their general correspondence and relation to the system of ideas as whole, such as logical relations. A round square is a false idea because it is internally inconsistent. The notions of squareness and roundness are mutually exclusive and they are contradictory. The reason that such an object cannot be imagined is a

testimony to the fact that it is inconceivable and non-existent. A round squared is not self-caused or other-caused. It is not cased at all, for it is inconceivable and non-existent. The fact they can be formed in language is by the same reason that the sentence can be uttered: 'bachelors are married men'. Even after its formation this sentence is false and contradictory. In the same token no conclusion can be drawn about round squares.

The only plausible objection against Spinoza and his proposition that ' there can be, or conceived, no other substance but God' is the link between conceivability of a substance and its existence. Spinoza and other rationalists propose that what is conceivable is existent. The objection against this idea is along the lines of a general empiricist objection to rationalism. There is no direct proof that the world is as we conceive it. According to the empiricists, our knowledge of the world arises from experience and it is experience dependent. This dependency on experience renders our knowledge of the world contingent. Therefore, our concepts can never exist necessarily. Kant exposed the weakness of the empiricist position by proving that our knowledge begins with experience, but it doesn't arise from experience. We don't observe our experience but objects of our experience. The knowledge of experience requires knowledge of objects of experience. The manifold of sense-impressions does not present this knowledge; therefore, the knowledge is already present as *a priori* concepts that find their content in experience.

It seems as if Spinoza can establish the link between conceivability and existence it is a plausible proposition. His definition of attribute, substance, and mode clarifies his premises. The conclusion of his argument follows from his premises as they stand and he is presenting a valid argument. For the sake of summary his argument is presented again: 1) 'God exists', 2) 'God possess all attributes by definition', 3) 'no two substance can share an attribute'. Therefore, 'there can be, or conceived, no other substance but God'.

With the advent of quantum mechanics and the theories of relativity, the monism of Spinoza finds more resonance in our era than any other philosopher from his epoch. Spinoza moves away from an individuated and personal deity to a universal divinity. Modern physics tells us that all entities in the universe are built from the same 'stuff', namely stings. The string theory also unifies the multiplicity of the physical laws. The ultimate property of all entities is described within the concept of inertia, which incorporates motion and rest. Spinoza's notion of God is not apart from nature and

universe. For Spinoza God is universe, self-caused, self-explanatory, and self-sufficient. There is no reason to posit another entity to explain the existence of God, the universe. This is a closed system. All the entities stand in a causal relationship to each other, but the whole is self-caused. This is all in line with the findings of modern physics.

Another charge leveled against Spinoza is that his notion of God is not God anymore. This is not a valid criticism, since the Judeo-Christian concept of God is not the only notion. There are billions of people who have different concepts and there are no objective criteria to prefer one to the other. The Vedic and Buddhist notion of the absolute are far from the concept of personal god, but no one from a philosophical perspective can claim that they are wrong. Such objection at the end comes down to personal convictions.

Benedict Spinoza was mistaken in some of his assumptions and arguments. But his intellectual achievement is in the windows he opened to us. He should be applauded and revered for this very fact.

2.4 Parallelism:

Similarly, to interactionism, parallelism postulates that there are two fundamentally different, and independent, kinds of substances: the material and the mental. According to parallelism, humans are made of both substances. However, there are no casual interactions between the two realms. Mental and material events happen in the same person, but they are causally independent of another. This is not to deny that sometimes mental and material events regularly precede each other. However, the sequence of events is not causally based. For example, breaking a leg is regularly succeeded by pain. However, a broken leg does not cause pain. These events parallel each other. This means that certain mental events are always accompanied by certain material events and vice versa.

An obvious objection is that parallelism, as it is formulated above, cannot explain the observed regularities. If parallelism is taken to be correct, then mental and material events ensue completely independent of each other, then there is no reason for a regular relationship between them to exist. It seems unreasonable that these regularities can be explained terms of chance, because the concepts of regularity and chance are contradictory.

Malebranche and Leibniz attempt to resolve this problem by proposing the theories of *occasionalism* and *pre-established harmony* respectively.[38]

Occasionalism proposes that on the occasion that certain material events occur, God causes certain mental events; and on the occasion that certain mental events occur, God causes certain material events to happen. There is no direct causal interaction between mind and matter, but God makes this interaction indirectly possible.

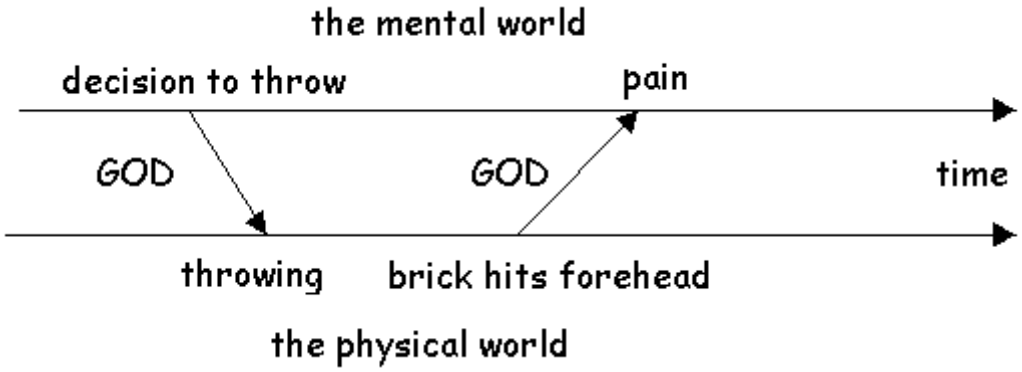

Fig. 2.8: Parallelism (www.ship.webspace.edu)

Pre-established harmony claims that the sequence of mental and material events proceed according to God's pre-established plan. In essence, it is predetermined which mental event follows which mental event and what material event follows what material event. Moreover, the sequence of the mental and material events is harmoniously pre-determined. Hence, Leibniz replaces the concept of causality with one of divine pre-established harmony.

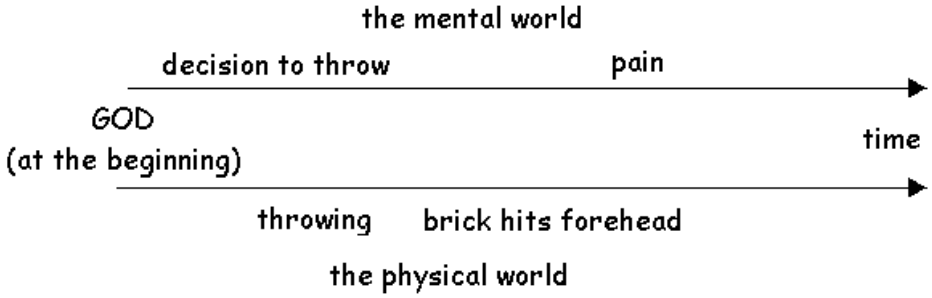

Fig. 2.9: Parallelism (www.ship.webspace.edu)

Leibniz asserts that consciousness and matter constitute two independent and separate realms. They cannot produce change in each other. If substances could cause

[38] Kim, *Philosophy of Mind*.

change in each other, then they would not be self-sufficient anymore and there would be no substances. He offers what is called the argument from knowledge in support of the dualist position.

> "Suppose that there be a machine, the structure of which produces thinking, feeling, and perceiving; imagine this machine enlarged, but preserving the same proportions, so that you could enter it as if it were a mill. This being supposed, you might visit inside; but what would you observe there? Nothing but parts, which push and move each other, and never anything that could explain perception."[39]

The point is that knowledge about physical workings of the brain does not reveal anything about consciousness. Hence, consciousness is separate and independent of the body and physical brain. If this is the case, then how do we explain experience?

According to Leibniz, the relationship between mind and body is not one of causality, since the physical world is causally closed. Experience is more like the performance of an orchestra in that each member performs his duty independent of others and based on directions received from the conductor. The action of an orchestra could have the illusion that the players cause each other to play certain notes, but in reality the harmony and synchronicity is achieved through the directions of a creative intelligence. In the case of the universe, this creative intelligence is God. It follows that God sets the actions of mind and matter in motion and synchronizes them at each instant. This is pre-established harmony.

The main difference between occasionalism and pre-established harmony is that for Malebranche requires God to be constantly intervening in the natural world. While, for Leibniz God is required to pre-program the universe so that mental and material regularities occur.

There are two major problems with both of these positions. First, there is no reason to reject interactionism. Common sense points to the validity of interaction between the mental and the physical. Parallelism rejects interactionism to save substance dualism, while it seems more appropriate to sacrifice substance dualism at the altar of interactionism and not vice versa.

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[39] Leibniz, G. W., (1965) *Philosophical Papers and Letters*, ed. L. E. Loemker, Chicago University Press, Chicago, p. 749.

The second problem is that both positions use an *ad hoc* hypothesis. The two parallelist theories have one main feature in common. They both postulate the existence of an unobservable entity, God, to explain the observed regularities between the mental and material events. Here, God is considered a theoretical entity, since it is an unobservable entity conceived as part of a theory intended to explain a phenomenon. Leibniz justifies his conception of God in two ways. First, where postulation is necessary for explanation it is justified. In the case of mind-body problem, since interactionism is incapable to resolve the problem, it seems justified to postulate God. The second point is that Leibniz believes that his postulation is more reasonable than that of Malebranche, because Malebranche's hypothesis needs more action by God than it is necessary. We should hypothesize nothing more than it is necessary to explain the observation. This is the very principle, which constitutes the second objection against parallelism.

As Leibniz noted the principle that if an explanation can be given without hypothesizing something, then the postulation should not be made. Occasionalism claims that God continuously intervenes at each instance of mind-body regularities. Since Leibniz requires God's intervention only once, occasionalist parallelism should be rejected in favor of Leibniz's parallelism. However, does this principle apply to Leibniz's theory as well? The answer is that we can give up dualism altogether in favor of either mentalism or materialism. Hence, it is more in the spirit of the Ocham's principle to give up dualism instead of holding on to dualism by postulating the causal action of an observable entity to explain mind-body regularities.

If it can be shown that by a particular postulation we can explain a phenomenon and we can predict facts, then the postulation can be justified. Such predictability is important, because it makes the hypothesis testable by observation and experimentation, and by this means confirmed or disconfirmed. This is the essence of scientific methodology. However, when a hypothesis lacks predictive powers, testability, and it is not necessary to explain any phenomenon, then it must be rejected. It would be an *ad hoc* hypothesis. Moreover, any thing it assumes to explain something is a theoretical entity the only use of which is to allow its theory to explain what the theory otherwise could not explain. Leibniz's theory has no predictive power. Hence, it is not testable by observation or experimentation. Consequently, Leibniz's theory is ad hoc.

In all fairness, however, we should grant that Leibniz had a different concept of substance from that of Descartes and most importantly Newton. According to the Cartesian and Newtonian perspective, the hallmark of substance is extension, *res extensa*. Leibniz conceives substance as force rather than matter in motion. For Leibniz, the physical world is not primarily made of concrete particulars or discrete entities. The true make up of universe can be best characterized as a *continuum*. Leibniz maintains that division, or sectioning, of the universe into smaller independent units is at best arbitrary, since this separation from the 'next section' is *ad hoc*.

> "Now this is the axiom which I utilize, namely, that "no event takes place by a leap." This proposition flows, in my view, from the laws of order and rests on the same rational ground by virtue of which it is generally recognized that motion does not occur by leap, that is, that a body in order to go from one place to another must pass through definite intermediate places… I do not believe extension alone extension alone constitutes substance, since its conception is incomplete…For one can analyze it into plurality, continuity and co-existence (that is, simultaneous existence of parts). Plurality has to do with number, and continuity with time and motion; co-existence, on the contrary, is the only thing that approaches the extension…Hence I believe that our thought of substance is perfectly satisfied in the conception of force and not in extension. Besides, there should be no need to seek any other explanation for the conception of power or force than that it is the attribute from which change follows and its subject is substance itself…Since activity is the characteristic mark of substance, extension on the contrary affirms nothing other than the continual reiteration or the propagation of an already presupposed effort and counter-effort, that is, resitant substance, and therefore, extension cannot possibly constitute substance itself…
> There is nothing in motion itself apart from the reality of the momentary transition which is determined by means of force and a nisus for change. In that force, therefore, consists whatever there is in material nature apart from its being the object of geometry or extension…"[40]

The notion of substance continual force is akin to the process ontology, which is promoted in this work. Moreover, it brings Leibniz notion of substance into closest theoretical relation to Aristotle's notion of substance and entelechy, as the internal principle

[40] Leibniz G. W. F, (1951), *Letters to De Volder*, translated by P. P Wiener, in *Leibniz Selection*, Scribner, New York, 157-58.

of orderly creativeness, which is the hallmark of all processes, as we will see. Leibniz was fully aware of this kinship:

> "We…attain here an understanding of the traditional Aristotelian doctrine of the forms or the entelechies—which was justifiably regarded as puzzling and appeared scarcely to be understood by the authors themselves. Accordingly, we believe that this philosophy, which has been accepted for centuries, is not be discarded in general, but only stand in need of an elucidation which make it consistent as far as possible. We shall…develop it with new truths." [41]

Leibniz maintains that the unit of force is not just a plausible substitute for *res extensa*, but also it provides a basis for a unified world-view. The ambition is to unify religion and science based on an equal footing for both. Leibniz calls this unifying principle of unit of force *monads*.[42] The question, however, is how do monads produce a universe of plurality. In other words, how do monads differ from each other? The problem is that we cannot use the notion of size and space—in other words extension—as differentiating principles, because according to Leibniz force is a more basic principle than extension. For Leibniz, the only other alternative would be difference in psychic qualities. Here, Leibniz resorts to the basic Cartesian dualism that the universe can be divided into *res extensa* or *res cogitans*. Leibniz proposes the primacy of force over extension. However, the dualism is nevertheless maintained. This time it is dualism of force and mind as opposed to extension and mind. So the argument is that if the monad is not a body, then it must be mind. Leibniz bases this conclusion on our subjectivity and qualia. We confirm this conclusion by the experience in ourselves of being alive. Hence, according to Leibniz, the universe is composed of an immense collection of monads, or lives, or psychic units.

> "Substance is a being capable of action. It is simple or compound. Simple substance is that which has no parts. Compound substance is the collection of simple substances or monads. *Monas* is a Greek word which signifies unity, or that which is one…Simple substances, lives, souls, spirits are unities…Consequently all nature is full of life.
>
> Monads, having no parts, cannot be formed or decomposed. They cannot begin or end naturally; and consequently last as long as the universe, which will be changed but will not

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[41] Leibniz G. W. F, (1951), Specimen Dynamicum, translated by P. P Wiener, in Leibniz Selection, Scribner, New York, 119-21.
[42] Kim, Philosophy of Mind.

be destroyed. They cannot have shapes; otherwise they would have parts. And consequently a monad, in itself and at a given moment, could not be distinguished from another except by it internal qualities and actions, which can be nothing else than in *perceptions* (that is, representation of the compound, or of what is external, in the simple), and its appetitions (that is tendencies to pass from one perception to another), which are principles of change…

There is also no way of explaining how a monad can be altered or changed in its inner being by any other creature, for…the monads have no windows through which anything can enter or depart…Nevertheless, the monads must have some qualities, otherwise they would not even be entities…

It follows from what has been said that the natural changes of the monads proceed from an internal principle, since an external cause could not influence their inner being."[43]

Leibniz's challenge is to identify that identity which generates the changing states while it maintains its unity. For Leibniz, the only proper candidate is consciousness, which expresses itself in the conscious existence of existence. In other words, consciousness is the unifying principle that guarantees identity and unity through change. Moreover, consciousness is the internal principle of change. Consciousness is not just unique to human mind. Consciousness constitutes a continuum and every monad is a focus within this continuum. Hence, there are many different levels of consciousness and many different monads at each level. The individuality of each monad is constituted in the ownership of experience of that monad, in other words its *apperception*.

"The passing state, which involves and represents a multitude in unity or in the simple substance, is nothing else than what is called perception, which must be distinguished from apperception or consciousness…

The action of the internal principle which causes the change or the passage from one perception to another, may be called appetition…

Therefore there is nothing fallow, nothing sterile, nothing dead in the universe, no chaos, no confusion except in appearance…We see that each living body has a ruling enetelechy, which in the animal is soul."[44]

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[43] Leibniz, G. W. F., (1951) Monadology, translated by P. P. Wiener , in Leibniz, Scribner, New York, §§7-16, pp 533-36; §§ 66-67 and 69-70, p. 547.
[44] *Ibid*.

In short we can say that, according to Leibniz, reality is comprised of a continuum of consciousness-force that manifests itself as centers of consciousness, which differ precisely by the degree of ownership of it, experience, or apperception. It is in place of causality that Leibniz introduces parallelism, synchronicity, produced through a pre-established harmony. In the universe every degree of consciousness exists. It follows that reality in essence is not a collection of monads but a hierarchy of monads. The drive to self-fulfillment is the essence of monads.

> "Each monad is a living mirror, or endowed with internal activity, representative according to its point of view of the universe, and as regulated as the universe itself…Thus there is a perfect harmony between the perceptions of the monad and the motions of the bodies, pre-established at the beginning between the system of efficient causes and that final causes…" [45]

It is important to point out that I find deep resonance with Leibniz's notion of force-consciousness continuum as the fundament of the universe. Moreover, his presentation of pre-established harmony anticipates the modern of synchronicity. However, he gave up on the idea of causality too soon and had no intuition for emergence as a viable element in our understanding of the fabric of universe. It is to these ideas that we return in the last chapters of this work. Nevertheless, I owe great debt to Leibniz's intuitions.

2.5 Popperian Interactionist Dualism:

Popper presents a modern version of interactionist dualism.[46] He takes the existence of consciousness as a brute fact of universe. Hence, he does not feel compelled to provide a proof for consciousness. Furthermore, he takes the interaction of mind and body, and the physical world, as a brute fact as well. Consequently, his project consists of providing a viable account of dualism, which accounts for these two truisms. Furthermore, in contrast to Descartes, Popper considers consciousness as a process and not as a substance. However, he is consistent in his dualism by asserting that the conscious process is not a physical phenomenon. Popper rejects the principle of causal closedness of the physical world. In fact, he believes that the physical world is open and indetermined. According to him,

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[45] Leibniz, *Monadology*, translated by Wiener, op cit. §§49-52, pp. 542-43, §62, p.546.
[46] Braddon-Mitchell, *Philosophy of Mind and Cognition.*

quantum mechanics provides the gap in the universe for the causal efficacy of consciousness.

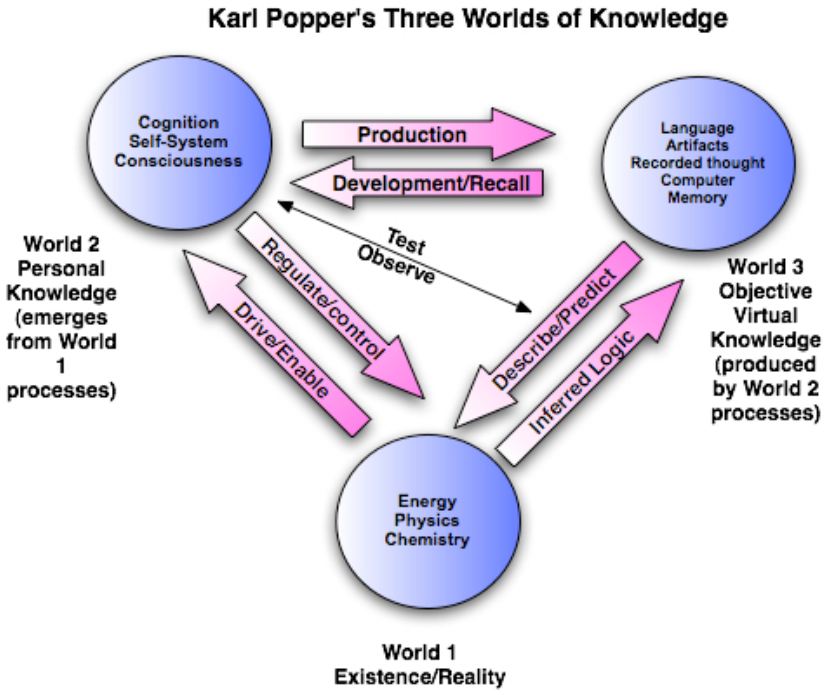

Fig. 2.10: Popperian Worlds (www.knowledgejump.com)

Popper believes that we can distinguish three distinct worlds, or realms, of human existence and experience.[47] One could also call them levels of reality. World 1 is the realm of material entities. The objects of World 1 have two basic properties. First, they are objective, since they can be experienced, and known, potentially by all minds. This means that they enjoy an epistemic symmetry. For instance, two astronomers have potentially equal access to a supernova for their investigation. Neither one of them has an inherently privileged access to the supernova. This point becomes clear when we compare this case to a case of radical epistemic asymmetry such as having a headache. In the case of headache, only the person who has the headache experiences and immediately knows the headache. Others can only *know of* the headache through the report, or the behavior, of the owner of that experience. Third person perspective has, and can have, no knowledge of the first

[47] Popper, K. R., *Objective Knowledge*, (1979) revised edition, Oxford University Press, New York.

person, or phenomenal, perspective. Consequently, the case of headache represents an epistemic asymmetry.

The second fundamental property of World 1 objects is that they are *autonomous*. This means that the existence of World 1 objects does not depend on the existence of perceiving minds. This is a categorical rejection of Berkeleyian subjectivist idealism and any inclination thereto.[48] *Esse* is not *percipi*.

World 2 is the world of mental states, events, and processes. It is among the entities of World 2 that we find love, hate, desires, hopes, pleasures, pains, thoughts, feelings, and desires. Contrary to World 1, World 2 is characterized by non-autonomy and subjectivity. They are not autonomous, since they are radically epistemic asymmetrical; and they are subjective, because they have no independent existence apart from the subjects, who experience them. However, there are other entities, which do not lend themselves to such simple categorical classification, such as words, propositions, laws, states, concepts, mathematical ideas, art, music, *et cetera*. These entities are immaterial, but they are objective. This means that they are created by human mind, but once they are created by us they evolve in a way that is beyond our complete control, direction, and prediction. Furthermore, they become objects of critical analysis, argumentation, synthesis, and processing by all of us in a symmetric epistemic manner. In this sense, the entities of World 3 are an intermediary between World 1, and 2. They are created by human mind by taking a thought about the World 1 objects and expressing that thought through a medium such as language, art, music, film, poetry, etc. Furthermore, this medium makes this private, subjective, thought public. Consequently, this creative act turns an epistemic asymmetrical one into a symmetrical one. As a result, I can share my private, subjective thoughts, feelings, and desires objectively with others. This is the cornerstone of all communication.

World 3 entities, hence, have three major characteristics. First, they are human inventions. Our theories, arguments, arts, language, rituals are lifeless constructs of our production. In this respect, they are comparable to bird's nest, beehive, or ants colony. Secondly, they are fallible but they are objective nevertheless. For Popper, all knowledge is fallible, including scientific knowledge. However, this infallibility provides the ground for criticism, which is the ground for real progress. The objectivity of World 3 theories and

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[48] Kenny, *History of Western Philosophy*.

constructs depends on the human ability to understand, communicate, and criticize them. This is in sharp contrast to the classical definition of knowledge as true justified belief, which must pave the road for the infallibility of knowledge. Thirdly, the objects of World 3 are subject to an evolutionary process, which is both creative and dialectically critical.

Entities of World 3 also make critical rationality possible. Critical rationalism can be understood as an attitude that I could be wrong in holding a certain view and you may be right in holding a different belief. However, we can arrive closer truth by an honest and critical intellectual effort. This effort is nothing other than a critical discussion and discourse. This is a dialectical process, through which we ascertain a problem, we suggest a theory as its provisional solution, we try to eliminate the problems with the tentative theory, and through the solidification of the provisional theory we arrive at a new problem. This process depends on the existence of the possibility of contradiction. In other words, this dialectical process depends on the possibility of propositions that cannot be all true and they cannot be all false. This can only be a property of World 3. There are no propositions in World 1 and 2, since statements are neither material entities, nor mental things. Propositions are produced by human mind, but they affect the world that is totally unpredictable to the mind that created them. Hence, they are autonomous. Moreover, statements are objective, since they can be understood and critically by all potentially equally.

For Popper, understanding World 3 objects is a critical and creative process:

> "According to my view, we may understand the grasping of a World 3 object as an active process. We have to explain it as the making, the re-creation of that object. In order to understand a difficult Latin sentence, we have to construe it: to see how it is made, and to re-construct it, to re-make it. In order to understand a problem, we have to try at least some of the more obvious solutions, and to discover that they fail; thus we rediscover that there is a difficulty—a problem. In order to understand a theory, we have first to understand the problem which the theory was designed to solve, and to see whether the theory does better than any of the more obvious solutions…In all these cases, understanding becomes "intuitive" when we have acquired the feeling that we can do the work of reconstruction at will at anytime."[49]

[49] Popper, K. R., Eccles J. C., (1977) *The Self and Its Brain*, Springer International, New York, p. 44.

Thoughts expressed through the medium of language, or any other medium, can be dissected, analyzed, and investigated the way an anatomist dissects, analyzes, and investigates a material body. Through the creative act of creating a proposition, a scientific study of World 2 ideas of World 1 becomes possible. The realm of concepts is open to analysis, synthesis, and progress like any other realm of scientific investigation. This point illustrates a fundamental aspect of Popper's theory. The entities of Worlds 1, 2, and 3 are in constant interaction with each other.

The interactive nature of these entities is the foundation of the learning process. Our minds create, and act upon, the items of World 3. In turn, the entities of World 3 evolve in an unpredictable manner and they act upon our cognitions, emotions, and motivations. Hence, we contribute to World 3 and we learn from the contribution of others to World 3. This is the basis of intersubjectivity. For Popper, a fully conscious self is the highest expression, or stage of development, of World 2 in a critical interaction with World 3. Furthermore, World 2 and 3 are in constant interaction with World 1. The objects of World 1 provide the contents of our concepts, thoughts, and propositions.

The relationship between Worlds 1, 2, 3 is not just interactive, but it is regulative as well. World 2 acts as a control system for World 1. In other words, the mind has evolves as control system for the body. In return, World 3 has evolved as a control center for World 2. This means that our concepts and theories regulate directly our cognitions, emotions, and motivations and indirectly our bodies and our physical world. However, the regulative relationship is not solely unidirectional as portrayed above. There feedback loops, which render this regulational hierarchy bidirectional. There are feedback loops that function as control centers from World 1 to World 2 and From World 2 to World 3. In other words, the regulative relationship functions both top to bottom and bottom to top. This makes intuitive sense since out theories about the world direct our behavior in the world. Moreover, it is also the case that the facts of the world shape our theories and thoughts, feelings, and desires.

Popper believes that the interactive and regulative principles serve as counterpoints against materialism, particularly eliminative materialism championed by Quine. Where Quine complains, "That the bodily state exist anyway, add the others?"[50] Popper counters:

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[50] Quine, W.V., (1960) *Word and Objects*, The MIT Press, Cambridge, p. 264.

> "I admit that the denial of mental states simplifies matters. For example, the difficult body-mind problem disappears, which no doubt is very convenient: it saves us the trouble of solving it. But I don't think that Quine is consistent when he asks 'Why add the others?' To whom does he address the questions? To our bodies? Or to our physical states? Or to our behaviour? Quine argues. And arguments, I hold, belong to World 3. Arguments may be *understood*, or grasped. And understanding, or grasping is a World 2 affair: our bodies can grasp a stone or stick, but they cannot grasp or understand an argument."[51]
> "Also, I am sure that it is Quine's *intention* (again a World 2 term) to *convince* us by his argument, or at least to give us something to *think* about (two more World 2 terms). Clearly, he would not be *satisfied* (also a World 2 term) if he would only evoke a certain kind of behavior—such as the noises 'Exactly!' or 'That is so!' or 'Well done!'[52]

Popper widens his critic of materialism by claiming that the reductionistic project of materialism amounts to nothing more than a promissory note.[53] According to Popper, science has less than a stellar track record of successful reductions. The reductionist project is fundamentally flawed, since it is beseeched by problems "such as the difficulty of reducing to psychology, and then to biology, the ups and downs of the British Trade Deficit and its relations to the British Net National Income".[54]

Popper believes that the major culprit for, a large extent, ignoring the study of consciousness in natural sciences is the influence of justificationism in scientific and empirical epistemology. The scientific version of justificationism is influenced by positivism, which rejects any investigation or talk of non-reducible mental events, states, or processes such as consciousness as incoherent drivel. However, Popper sees any attempt of reduction in this field of investigation as best a promissory note. According Popper, consciousness has evolved as an emergent property of World 1 and conscious selves have evolves as an emergent property of World 2. Furthermore, as we have seen, World 3 is the product of a creative and critical activity of World 2. Interestingly, he postulates that World

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[51] Popper, K. R., (1994) *Knowledge and the Body-Mind Problem*, edited by M. A. Notturno, Routledge, London, pp. 8-9.

[52] Popper, K. R., (1994) *Knowledge and the Body-Mind Problem*, edited by M. A. Notturno, Routledge, London, pp. 8-9.
[53] Popper and Eccles, *The Self and Its Brain*, pp. 96-98.
[54] Popper and Eccles, *The Self and Its Brain*, p. 18.

2 is fixed in World 3 and, in fact, cannot exist without it.[55] In fact, his central argument is that we must *understand* (World 2 entity) a World 3 concept or theory before we can utilize it to achieve something in World 1.

Here we seem across a vicious circularity in Popper's position. The question is how is it possible that World 3 is the product of an creative and critical act of human mind and our minds depend on it for it existence. How can the mind be dependent for its existence on that which has it produced? However, Popper claims that this puzzle can be understood, if we realize that the relationship between World 2 and 3 is one of interactive and symbiotic co-evolution. The further evolution of mind depends on World 3 and not its original coming to existence. [56]

We can summarize Popper's theory of consciousness as such: animal consciousness has evolved as a control system for the body. World 3 has evolved as a synthetic yet adaptable control system for the mind. The evolution of human consciousness has evolved with higher linguistic functions. The impetus for this evolution is the finding solutions to the problem of survival, which face organisms living in World 1. Thus, World 2 and 3 evolved as adaptations mechanisms for World 1 challenges.

Popper's understanding of evolutionary process is based on his dialectical schema of how we go about critically to solve a given problem. Let us assume that P_1 is the problem at hand. So, we begin by proposing a tentative solution, TT, to solve P_1. Next, we begin a critical evaluation of TT through a process of error elimination called EE. This is a critical and creative, which leads to a new state of affairs. The new state of affairs, P_2, represents simultaneously a solution to P_1 and a new challenge and problem, which starts the whole process anew. Popper believes that this dialectical process or activity of an organism in response to the challenges of its environment (World 1) can account for the emergent evolution of new realms of experience such as World 2 and World 3. Popper states:

> "P_1 may be due to the slow drying up of large pools containing fish. This may pose for individual a problem of insufficient supply of food within the pool in which the fish finds itself. Then TT may consist in a changed behaviour of this fish. For example, the organism

[55] Popper, *Knowledge and the Body-Mind Problem,* p. 129.
[56] Popper, *Knowledge and the Body-Mind Problem,* p. 129.

in question may invent a new behavioural aim: the aim of getting from one pool to another over dry land. With it, it invents a new problem P_2; how to get from one pool to another. P_1 was the problem of how to get food. P_2 is the problem of how get over dry land. It is clear that these two problems are completely different—qualitatively different.
Thus P_2 may be an entirely new problem—one problem that has never before arisen (although it may arise in stages)—while P_1 was a very old problem, that of getting enough food.

According to our schema, new behavioural aims, such as getting over land into another pool, will be followed by new skills—and these may become traditional in a population of fish. If they do, then those anatomic mutations that make it even slightly easier to practice the new skills will be of immediate advantage. They will be favoured by natural selection." [57]

This passage illustrates the mechanism, through which World 2 can lead to changes in World 1. It is important to emphasize that the problems cannot be reduced to World 1, or World 2. They emerge as properties of the organism's interactions with its environment and its attempt to survive in that environment. These problems and challenges act as the impetus for evolution. Life is a process of problem solving both at the individual and species level. At the individual level, testing new behavioral patterns solves problems. Species solve their problems by introducing new genetic patterns. Consequently, modification of behavioral aims leads to change in behavioral dispositions, which in turn may lead to favoring some mutations and anatomical changes over others.

Human consciousness and self have evolved from a more primitive animal consciousness in response to the challenges presented by the environment and the attempt to solve these problems. Popper postulates that evolving animal systems exhibit a kind of 'genetic dualism'. An organism, accordingly, consists of two distinct yet interacting control systems. One system is a *'behavior-controlling part'* such as the nervous system of higher animals. The other system is an *'executive part'* such as the sense organs and the motor system. [58] The interaction between these two systems represents the interaction between World 1 and World 2. According to this picture, consciousness represents the behavior-

[57] Popper, Knowledge and the Body-Mind Problem, p. 80.
[58] Popper, Objective Knowledge, p. 273.

controlling unit (World 2), which is in constant interaction with the executive unit representing the body in the world (World 1). The interaction between these two systems is regulated by our objective knowledge derived from our critical treatment of our problems (World 3).

Central to this notion is the role of language.[59] According to Popper, language has four distinct functions. The higher functions represent the descriptive and critical roles, which provide the foundation for the World 3 objective knowledge. So, there are four major functions of language. There are two lower functions and two higher functions. The higher linguistic functions presuppose the lower function, but the reverse relation does not obtain. The two higher functions are: argumentative or critical function, and the descriptive or informative function. The lower linguistic functions consist of the communicative and the expressive functions. Thus, the hierarchy of these functions is as such:

5. Argumentative or critical function.
6. Descriptive or informative function.
7. Communicative function.
8. Expressive function.

According to this view, organisms, which are capable of the critical or argumentative function *a fortiriori* can describe, communicate and inform. However, an organism, which is capable of expression, is not automatically capable of higher functions. Whether, an individual will reach the higher functions is a matter of ontogeny and phylogeny. For example, cats are capable of the expressive function, but their genetic and evolutionary heritage precludes them from reaching the higher functions. A baby, on the other hand, at the outset is capable of only the expressive functions. However, through subsequent developmental stages the baby can reach the higher functions such as the informative function or the critical function.

It is also worth noting that each function represents a particular realm of human experience. The critical function represents the realm of theories and discursive cognition. The descriptive function represents the realm of myths, statements, stories, art, and symbolic cognition. These two realms represent the basis for World 3, as discussed above. The communicative and expressive functions represent the realm of sensations and

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[59] Kenny, *History of Western Philosophy*.

perceptions, motivations, emotions, and simple cognitions based on perceptions. These two functions represent the basis for World 2.

Popper uses the terms 'full consciousness', 'the self', and 'the ego' interchangeably. According to him, 'human consciousness contains a great many residues of lower forms of consciousness, such as all kind vague feelings mingled with more pronounced feelings of pain…there is no doubt that we achieve full consciousness—or the highest state of consciousness—when we are thinking, especially when we try to formulate our thoughts in the form of statements and arguments' [60]

The self consists of mental and psychological events, processes, and states and their logical contents and the self is closely associated with objective knowledge and human language. In other words, the self is a World 2 phenomenon 'anchored' in World 3. Furthermore, the self has an intuitive understanding of World 3: "…theories about space and time, about physical bodies in general, about people and their bodies, about our own particular bodies as extending in space and time, and about certain regularities of being awake and being asleep."[61]

The self is the consequence of placing oneself in an objective light, which enables us to see oneself from a third person perspective. This is only possible through a medium of a descriptive language. Hence, descriptive function of language makes the self possible. It is through descriptive language that we become aware of ourselves. Furthermore, the self functions as a 'plastic' control center for the body, and it is itself subsumed under the control of the theories that it understands (World 3):

> "In all higher organisms we find a hierarchy of controls. There are controls controlling the heartbeat, the breathing, and the balance of organism. There are chemical controls and nervous controls. There are controls of healing processes and controls of growth. And in all freely moving animals, there is the central control of the movements of the animal. This control, it appears, is the highest in the hierarchy. I conjecture that mental states are connected with this central and highest control system, and that they help to make this system more plastic. A control like that which makes us blink when something suddenly

[60] Popper, *Knowledge and the Body-Mind Problem,* p. 114.
[61] Popper, *Knowledge and the Body-Mind Problem,* pp. 114-115.

> approaches our eyes I call a 'non-plastic control'. When the possible reactions cover a wide spectrum of possibilities, I speak of a 'plastic control'."[62]

It is important to realize that he does not reject the notion of unconscious control. He admits that many of actions are unconsciously controlled. Either, they are automatic in nature, or through many sessions of practice they have been relegated to an unconscious control. However, what we would consider unique human action is under the plastic control of the self.

At birth, we are not selves. On the contrary, we *learn to be selves.*[63] Learning to be a self is a becoming. It is an active process. In this process, at first, we learn to interact other human beings. Then, we learn to understand critically and relate to our given culture and the body of knowledge and theories left to us (World 3). Lastly, we contribute to our World 3 heritage through our own critical understanding. Popper states: "The child learns to know his environment, but persons are the most important objects within his environment; and through their interest in him—and through learning about his own body—he learns in time that he is a person himself."[64] Consequently, becoming a self is comprised of two stages. First, we become conscious of others. Secondly, we develop theories about others and we make inference about ourselves:

> "Long before we attain consciousness and knowledge of ourselves, we have, normally, become aware of other persons, usually our parents…I suggest that a consciousness of self begins to develop through the medium of other persons: just as we learn to see ourselves in a mirror, so the child becomes conscious of himself by sensing his reflection in the mirror of other people's consciousness of himself."[65]

The self is not an unchangeable entity. It is a process of becoming and evolution through acquiring of objective knowledge through a process of critical understanding and creatively solving the challenges of one' life. Consequently, learning to become a self is a lifelong progression with no predestined ending.

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[62] Popper, Knowledge and the Body-Mind Problem, p. 112.
[63] Popper and Eccles, The Self and Its Brain, p. 109.
[64] Popper and Eccles, The Self and Its Brain, p. 110.
[65] Popper and Eccles, The Self and Its Brain, pp. 109-110.

At this point, let us critically analyze Popper's theory. The Popperian theory is based on two presuppositions:

1. Consciousness exists.
2. There is an interaction between consciousness and the physical world. This interaction is mediated through the ideal world of theories.

He holds these two principles as brute facts about the world. Hence, his project is to prove that dualism obtains from these two principles. It is precisely this point, which proves problematic for him. It is not quite clear how one can prove the existence the independence conscious, or mental, realm by assuming that this conscious realm exists and it interacts with the physical world. The only way that one could prove the existence of an independent yet causally efficacious conscious realm is to show the prevalence of cases in which there is a neural action without physical causes. We should be looking for cases, in which we can detect physical effects without any measurable or detectable physical cause. In the case, we can conclude that the mental realm interacts with the physical world, but it is independent of it. However, such cases have never been found. To say that mental causes happen to be accompanied universally by physical causes does not answer the question but it raises a further fundamental question of why should it be so, if the two realms are independent of each other. Why should two independent realms always accompany each other? If the mental events are independent of the physical events, then why should they always be attending each other? This speaks of a universal necessity, which dualism cannot account for and in fact it undermines dualism.

Additionally, it seems that the entities of World 2 and 3 can only be physically instantiated. A thought is a thought when it can be spoken, heard, pictorially imagined, written down, etc. It is not clear what remains behind, if we take all this elements of a thought away. Are we still talking about a thought? This seems to be the case for all intentional mental states such as believing and thinking. Even mental states such as emotions, which are predominantly phenomenal in character, are anchored in some kind of physical change of state. What is fear without rapid beating of heart, the churning of stomach, cold sweat, wobbly knees, and so on? It is not my contention that fear or certain beliefs are the physical events alone, but it seems quite reasonable that they are intimately and necessarily related to some physical event, process, or state.

Even the items of the ideal world (World 3) seem to be instantiated by some physical entity. Ideas can be efficacious if, and only if they are expressed, and communicated, in one form or another. This does not mean that the meaning of a word can be reduced to its sounds, but that the physical instantiation of that meaning is necessary in its communication. Otherwise, it is a private meaning and we know, from Wittgenstein, that private language is nonsense. Language and meaning must be public and publicly communicable. Otherwise, they are nonsense.

It seems to me that Popper is guilty of committing a fallacy of false dichotomy. Either we should be able to reduce all phenomena to physical events, or we should accept interactionist dualism. This is a false choice. There is such a theory as non-reductive physicalism. Popper's fault is that he ignores this possibility. This does not mean that non-reductive physicalism is the answer to our prayers, but that it presents a very viable position. Physicalism is not synonymous with reduction. Hence, we can safely conclude that Popper's dualism does not prove its case in any consistent manner. However, Popper's theory is full of profound and useful intuitions. Chief among these is his intuition to treat consciousness as a process and step away from the traditional substance and property view of the world.

Popper also claims that quantum mechanics provides a gap for the causal efficacy of consciousness. This seems to be an arbitrary. We all agree that the workings of consciousness seem to be intractable and mysterious. We also know that the quantum world seems mysterious as well. Here, we have two mysteries. To say that one mystery can be explained in terms of another mystery seems to be quite random. It is like saying:

1. S does not understand X.
2. S does not understand Y.
3. Therefore, X is identical to Y. Or X explains Y.

This seems flat out fallacious.

At this point, it seems plausible to assume that dualism is not a viable theory for the explanation of mind-body relationship. The remaining choice seems to be monism of one sort or another. Materialism is the view that the only type substance existing is material. The mental realm is postulated as a property of the material substance or nonexistent. The other option is to deny the existence of the material realm. Mentalism is the view, which

assumes that only the mind is real. Matter is a perceptual property of mind. It is to these forms of monism that we turn our attention.

Chapter Three

Mentalism or Subjective Idealism

Subjective idealism, or mentalism, is from a historic perspective a discredited view. However, a discussion of it is fruitful for one important reason. It closes the historical gap in our discussion of this topic. Furthermore, the concerns and the questions it raises are not dismissible. We should distinguish between the questions a theory asks and answers a theory furnishes. The point is that even if the answers might be wrong, this does not mean that the questions can be dismissed as well.

Subjective mentalism maintains that the qualities of the world, which we perceive by means of our senses, are dependent on the mind of the perceiver. All we know is our own mental states, which are called 'ideas'. For example, the property of warmth that we perceive in the fire is our own idea. Mentalism claims that the only kinds of things that exist are mental states, objects, events, and processes. According to mentalism, minds are wholly immaterial in nature. Material entities are collections of mental entities, particularly sensations. This notion can be illustrate by the example of perception. Suppose we are looking at a ripe, red cherry on a tree. When we do this, we get visual sensations of redness, and spherical shape. If we reach out and touch the cherry, we should receive tactile sensations; and we were to eat the cherry, we would receive gustatory and olfactory sensations. All this sounds commonsensical. However, the mentalist identifies the cherry with the group of sensations mentioned above. In other words, the cherry is nothing more than the collection of visual, tactile, gustatory, and olfactory sensations. A sensation is something, which exists when and only when it is perceived. Therefore, it is a mental entity. The cherry qualifies as a mental entity as well, because it is composed of entities all of which are sensations. Therefore, the general conclusion of mentalism is that everything that we perceive is combination of ideas in our own minds. Let us begin by considering the historical development in the thought of Locke, Berkeley, and Hume, which culminated in the subjective mentalism position.

3.1 Locke's Theory of Perception and Identity:

Locke's epistemology assumes a Cartesian metaphysics that the world consists of two types of things, minds, and bodies. Furthermore, the mind knows its own states, which

Descartes calls ideas. For Descartes, the ideas represent the external world. For Locke, the mind thinks about its own ideas. By ideas, Locke means whatever is the object of the understanding when one thinks. This means that to understand the scope of human understanding is to investigate the origin of ideas. For example, I have an idea of an elephant. Before, I can pass any judgment about the elephant, for example, whether it is Indian, or African, I must determine whether there are elephants at all. The only way to make this determination is to trace the idea back to its origin. The idea of the elephant can be traced backed to sense perception or imagination. If the idea is traced back to sense perception, then it is real. Otherwise, it is imaginary. Hence, there are different types of ideas. There are ideas of sensation, which are derived from the action of sense organs. There are ideas of reflection, which arise from the manipulation of ideas of sensation, such as remembering, imagining, comparing, and so forth. The ideas of sensation constitute the raw material of all experience. The ideas of reflection comprise the consciousness of the operations, which the mind performs on the raw material provided by the sensation.

Locke rejects the notion of innate ideas. At the beginning, the mind is a clean slate and hence all its ideas originate in experience. Therefore, only experience can confirm or disconfirm our beliefs. Experience is either the data of external sense, colors, smells, sounds, and so forth; or the data of reflection such as imagining, remembering, thinking, willing, etc.

> "All ideas come from sensation or reflection—let us then suppose the mind to be, as we say, white paper, void of all characters, without any ideas—How comes it to be furnished? … Whence has all the materials of reason and knowledge? To this I answer, in one word, from experience. In that all our knowledge is founded; and from that it ultimately derives itself. Our observation employed either about external sensible objects, or about the internal operations of our minds perceived and reflected on by ourselves, is that which supplies our understandings with all the materials of thinking. These are the two foundations of knowledge, from whence all the ideas we have, or can naturally have, do spring."[66]

Locke draws a further distinction between simple and complex ideas. Simple Ideas stem from sensations or reflections. Furthermore, simple ideas can enter the mind through either a single sense or several sense organs, such as solidity and space respectively.

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[66] Locke, J., (1984) *An Essay Concerning Human Understanding*, Oxford University Press, pp. 2-5.

Instances of simple ideas of reflection are reasoning, judging, etc. Complex ideas come from three different sources:
1) Simple ideas can be united into complex ideas, such as beauty, a man, and a nation.
2) Complex ideas can be formed through the relational analysis of two ideas (simple or complex). 3) Complex ideas can be formed through a process of abstraction of an idea from its accompanying ideas.

In our present inquiry, we are chiefly concerned with the ideas of sensation. As we just determined, ideas of sensation are objects of thought, which represent the external world. Hence, for example, a hot object is brought in contact with the skin, and the resulting stimulus is conveyed to the brain, the event in the brain produces the idea of the heat in the mind. If the hot object were red, then the idea of redness would be produced in the mind as well. Consequently, the set of ideas comprises a group of representations of the qualities of the real things. The mind knows the representations of the qualities of the real things and not the real things.

Locke believes that there are two types of qualities: primary, and secondary. Primary qualities are mathematical concepts such as extension in space, number, motion, and solidity. The primary qualities are those, which actually belong to objects in the external world, because no matter one does to things, they will still exhibit those qualities. Burn wood, for example, it will still exhibit some mass, shape, and extension in space. Secondary qualities, however, are those qualities, which change with different circumstances. In some cases, they disappear altogether. Color, taste, and smell are examples of secondary qualities. Secondary qualities change moreover with change in the circumstance of the perceiver. For example, if one has a cold, one may not be able to taste one's food. Therefore, secondary qualities do not really belong to external objects; they do not really exist *out there* in the world.

Objects also possess intrinsically, in addition to primary qualities, a substance. However, we do not experience substances. Idea of substance belongs to the class of complex ideas. Locke claims "the idea…to which we give the general name substance is nothing but the supposed, but unknown support of those qualities we find existing, which we imagine cannot subsist *sine re substante*, without something to support them…"[67]

[67] Locke, *An Essay Concerning Human Understanding*, II, xxiii, 1-5.

According to Locke, we find a number of ideas of simple qualities continuously associating with each other. Hence, we combine these ideas, and give them a single name. Furthermore, we appeal to the notion of some support or substratum for the qualities in the thing, which produces the simple ideas in us. This concept of support is called substance.

> "An obscure and relative idea of substance in general being thus made we come to have the ideas of particular sorts of substances, by collecting such combination of simple ideas as are, by experience and observation of men's senses, taken notice of to exist together; and are therefore supposed to flow from the particular internal constitution, or unknown essence of that substance…."[68]

Additionally, the complex idea of substance contains the idea of power. The idea of substance acts not only as a support for the qualities of objects, but also as a causal agent, that produces changes in other things. We get the idea of cause from the experience of succession of events. We get the idea of agency from reflection upon the succession of events. Furthermore, the reflection of agency leads us to postulate that to say *A causes B* is to say that A always produces B. The idea of substance, hence, is composed of three aspects:

1) Simple ideas of certain properties,
2) The idea of a 'container', which supports the properties,
3) The idea of cause, which is understood in terms of a) the idea of succession drawn from sensation, b) the idea of agency obtained from reflection, and c) the idea of necessity, which is not derived from experience but concluded from it.

At this point, we can formulate Locke's theory of perception, called *representationalism*. It asserts that we know the representations, or copies, of external things in our minds, and not the external things. These representations are simple ideas. The external world is comprised of things, which possess only primary qualities. These entities impose upon our sense organs and cause representations of themselves to appear in consciousness. The mind knows these representations. However, the representations are augmented by the mind with secondary qualities. Now, the mind projects the secondary

[68] Locke, An Essay Concerning Human Understanding, II, xxiii, 1-5.

qualities onto the objects of the external world. Hence, what is out there in the real world is a type of featureless 'stuff' without qualities; serve as a substratum for the primary qualities, which inhere in it.

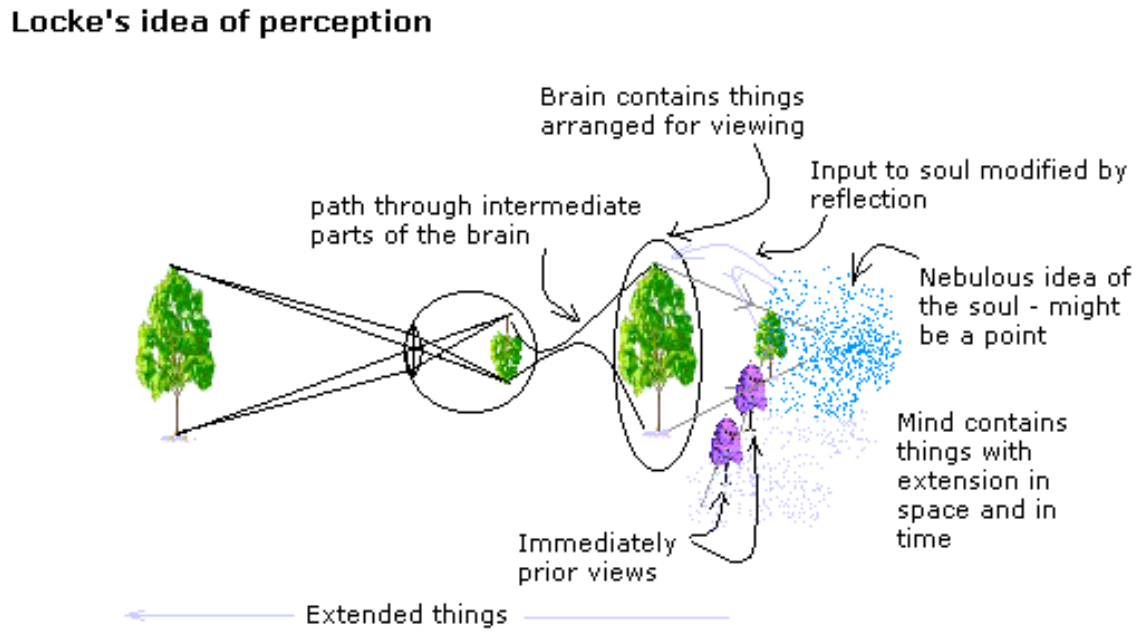

Fig. 3.1: Lock's theory of perception (www.en.wikibooks .org)

John Locke was the first philosopher to introduce the concept of identity into the philosophical discourse.[69] Locke took an agnostic position toward substance. He insisted that we couldn't know anything about the existence of substances and their essence. Therefore, personal identity cannot be absolute, since it cannot be based on substance. Personal identity has to be relative.

Personal identity is self-consciousness. The continuity of self-consciousness is function of the history of this self-consciousness. This history is informed by a backward trace in time as long as thought and action can be attributed to this self-consciousness. This means that self-consciousness is limited to memory. My past belongs to me as long as I can remember my past. The forgotten years don't belong to my self-consciousness anymore. Hence, the forgotten years are not my forgotten years. I was born with the first memory. Many people have occupied this body, each with a different history and self-consciousness.

[69] Kenny, *History of Western Philosophy*.

This, however, causes tremendous problems with the responsibility of people and their moral culpability. Who is responsible for the action committed by me many years ago? If I have no memory of those actions, then they don't belong to me anymore. I am not the same person as the culprit of those actions. That person is non-existent. Locke attempts to solve the problem of culpability by introducing bridging principle of the intervening years. It is true that I have no memory of my childhood, but my childhood was remembered in my teenage years and I can remember my teenage years. Therefore, an indirect link can be established my adulthood and my infancy. However, this strategy will not work for other scenarios. Imagine transfer of contents of self-consciousness could be transferred from one person to another. In this case, if I commit a heinous crime and transfer the content of my self-consciousness to somebody else, then that person would be responsible for those crimes. It seems that Locke would have to go along with this scenario. However, this seems highly counterintuitive to most people. It seems that our concept of identity far surpasses contents of memory. For us 'memory does not create personal identity'.

Definition of self-identity by memories is a risky proposition. Memory is a neurologically dependent cognitive faculty. It is subject to disease and degradation like anything physical. Identity, on the other hand, could be, and in fact is, informed by physical characteristics. But it is not identified with our physicality. We define much of its characteristics through our actions and our aspirations for the future. Therefore, a reductionist approach to the problem of identity is ill advised, since it leaves the most important aspect of our identity out, namely our 'forwardness'.

3.2 Berkeley:

Berkeley departs from Locke on two major points; he rejects the distinction between primary and secondary qualities, and he gets rid of the notion of substance. The distinction between primary and secondary qualities is arbitrary. Berkeley claims that any argument, which shows a secondary quality, such as heat, is an idea in the mind of the perceiver, applies also to primary qualities such as size. In the *argument from primary and secondary qualities,* Berkeley states:

> "They who assert that figure motion, and the rest of the primary or original qualities do exist without the mind, in unthinking substances, do at the same time acknowledge that

> colours, sounds, heat, cold, and suchlike secondary qualities, do not; which they tell us are sensations, existing in the mind alone, that depend on and are occasioned by the different size by the different size, texture, and motion of the minute particle of matter…. Now, if it be certain that those original qualities are inseparably united with the other sensible qualities, and not, even in thought, capable of being abstracted from them, it plainly follows that they exist only in the mind…. For my own part, I see evidently that it is not in my power to frame an idea of a body extended and moving, but I must withal give some colour or other sensible quality, which is acknowledged to exist only in the mind. In short, extensions, figure, and motion, abstracted from all other qualities, inconceivable. Where therefore the other sensible qualities are, there must be also, to wit, in the mind and nowhere else."[70]

In this argument, Berkeley shows that primary and secondary qualities are inseparably united. Furthermore, the qualities are relative to perceivers.

Berkeley's arguments against the existence of matter are presented throughout the *Dialogues*. Here, the character of Philonous, lover of mind, represents Berkeley's position, while Hylas presents a possible adversary. Berkeley maintains that the notion that the real nature of things differs from what we sense needs to be rejected. The main premise in these arguments is that what we perceive are our own ideas. This notion is presented in the dialogues through a discussion of heat. Hylas maintains that heat is a property of external objects. Furthermore, the quality of heat varies according to the degree of heat, which we perceive. However, fire can generate an intense degree of heat that is perceived as pain and that is not in fire. Philonous, however, points out that heat at a gentler level is warmth, which is pleasurable. Consequently, the intense heat and pain, just like warmth and pleasure, are one simple sensation. Now, if one puts one hot hand and one cold hand in the same container of water, the water will feel warm to the cold hand and cool to the warm hand. Furthermore, it is absurd and self-contradictory to assert that the water is both cool and warm at the same time and the same respect. Any idea that leads to contradiction must be rejected. Therefore, as the pain and pleasure are not in the fire, but in the perceiver, so

[70] Berkeley, G., (1979) *A Treatise Concerning the Principle of Human Knowledge*, ed. K. Winkler, Indianapolis, Hackett, Part I, section 10.

must the intense heat and warmth be in the perceiver.[71] Berkley maintains that *pain-pleasure argument* holds for all so-called secondary and primary qualities.

Consider the primary properties such as shape and size. The size of an object increases as we approach it and it decreases as we move away from it. The shape of an object, also, changes as we observe it from different angles. For instance, a table looks circular from one angle, while it seems to be elliptical from another. It seems that a same type of absurdity can be drawn from analysis of primary qualities as well. The conclusion is that even primary qualities are not inherent in objects.[72]

At this point, there are two possibilities with respect to the nature of matter. 1) Matter is mind-independent substance, which is real in and of itself without any properties. 2) Matter is an abstract concept, which refers to no idea in experience. Those possibilities present matter as an unintelligible notion. In the case of the first possibility, the notion that something can exist with no properties is nonsensical. The point is that if such thing existed, then it would be impossible for us to have an idea of it. Hence, it would be impossible to know it. Knowing it requires reasoning about and experiencing its properties. However, since it has no properties, knowledge is impossible. In the case of second possibility, matter has the property to support the qualities that we perceive. However, the 'support' quality of matter cannot be experienced. The concept of support is used, therefore, in a new sense, which cannot be experienced in the usual sense of the word. Since this new sense cannot be defined in any proper way, it must be nonsensical.[73] Therefore, the concept of material substance with no properties, primary, secondary, or any other mysterious kind is self-contradictory. Hence, it is an abstract notion with no meaning.

What does all this mean for the representational theory of perception? The theory of representationalism results in three distinct factors in perception.

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[71] Berkeley G., (1979) *Three Dialogues between Philonous and Hylas*, ed. R. M. Adams, Indianapolis, Hackett, 1: p. 115-119.
[72] Berkeley, *Three Dialogues*, 1: p. 241-270.
[73] Berkeley, *Principles*, p. 16-20, 77-80.

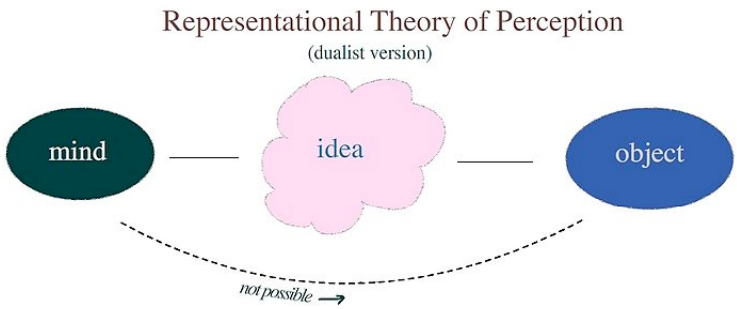

Fig. 3.2: RTM (www. Courseware.finntrack.edu)

There is the knowing mind, the ideas, which the mind knows, and the objects of the external world. The objects in the external world act as causes for the ideas by impinging upon the sense organs. As a result, images are *thrown upon the screen* of consciousness; and they are known as ideas. For Locke, when the ideas correspond to reality, we have knowledge. The problem is that if the mind always knows its own ideas and never knows the objects of the external world, then the mind cannot know anything about the objects of the external world directly. Any attempt to obtain knowledge of the objects of the external world, would produce only a more extended knowledge of the ideas. In fact, the objects of the external world can only be inferred from the ideas. The point is that if we do not know anything about the objects of the external world, then there is nothing we can know about the objects of the external world. Hence, we cannot know that they have the quality of being like the ideas, or being able to cause the ideas. All we know are our own ideas, and as far our experience is concerned, the world might be comprised of ideas. This makes the postulation of objects of the external world superfluous and unjustified.

The representational theory is also undermined by the fact that the idea of substance is vacuous. In order to represent material substance, we must use our ideas. However, we cannot have idea of material substance, because by definition material substances are mind-independent and is not comprised of ideas. Hence, no ideas can represent material substance.

As far as the causal agency of material substance is concerned, matter cannot cause any of our ideas. Causal agency requires the correlation of two events. Since we have never experienced any material substance being correlated with any other object, state, or event, we cannot claim that material substance can cause anything. Therefore, as far we can tell,

only mind have the causal power to cause other ideas in other minds. At this point, the *causal-representational* theory must be rejected.

At this point, we are left with the fundamental question of what actually exists. It seems like there are only two kinds of things that we can know of: minds and ideas. However, ideas do not exist without minds. Berkeley asserts this in the first two sections of Part I of the *Principles*:

> "It is evident to anyone who takes a survey of the objects of human knowledge that they are either ideas actually imprinted on the senses or else such as are perceived by attending to the passions and operations of the mind or, lastly, ideas formed by help memory and imagination, either compounding, dividing, or barely representing those originally perceived in the aforesaid ways."[74]

There are different types of ideas: ideas can be sensations, they may be perceptions of mind's own functions, and they may be memories or imaginations. In all these, it is the mind, which is active, and not ideas.

> "Besides all the endless variety of ideas or objects of knowledge, there is likewise something, which knows or perceives them and exercises various operations as willing, imagining, and remembering about them. This perceiving, active being is what I call mind, spirit, soul, or myself, by which words do not denote any one of my ideas, but a thing entirely distinct from them, in which they exist or, which is the same thing, by which they are perceived, for the existence of an idea consists in its being perceived."[75]

Hence, minds and ideas are distinct. The mind is not one of the ideas. Furthermore, the active causal agent is the mind, not the idea. The essence of the mind is thinking. For minds, existence is perceiving, thinking, and willing. It follows that the existence of non-thinking things consists in their being perceived.

Even though we have knowledge of two kinds of things, only the mind can be called a substance, for a substance is something that exists logically independently of other things. Ideas depend on minds. Hence, they are not substances. One important point is that

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[74] Berkeley, *Principles*, p. 2
[75] Berkeley, *Principles*, p. 2.

although, minds are substantial and real, we have no ideas of minds. We have *notions* of minds, but we know them by reason, inference, and reflection alone.

In what sense, then, does the world exist? If I leave my room at this point, is it true that the room goes out of existence and comes back to existence when I return, if no one else perceives the room? Berkeley rejects this implication. He asserts that to exist is to be an idea in a mind or to be perceived by a mind. However, the mind needs not be mine, or any other person's; it can be God's mind. Accordingly, the ideas we know exist independently of our knowledge, because they continuously exist in God's mind. Here, the distinction between perception and imagination becomes important. Perception is an involuntary process, while imagination is a voluntary process. Hence, the ideas we perceive are also in God's mind, which are passed to our minds as well. However, the ideas we imagine exist only in our minds and they go out of existence as soon as we cease to imagine them. Hence, the world continues to exist even when we cease to perceive it, since God's perception sustains the world. However, unless we are prepared to introduce God into our ontological picture with sound justification, we are left with the position that the only thing that exists is our own mental states.

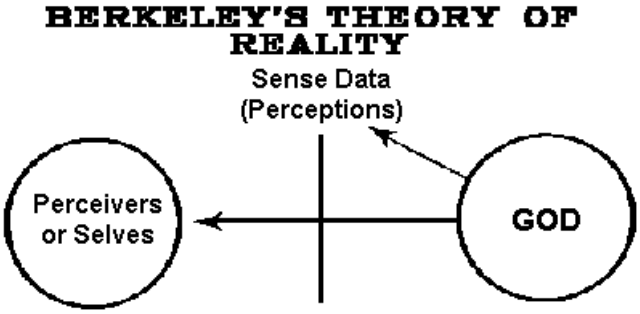

Fig 3.3: Berkeley's metaphysics (www.100megsfree4.com)

At this point, we can summarize the mentalist position by returning to our fresh cherry example:

> "I see this cherry, I feel it, I taste it: and I am sure nothing cannot be seen, or felt, or tasted: it is therefore real. Take away the sensations of softness, moisture, redness, tartness, and you take away the cherry. Since it is not a being distinct from sensations; a cherry, I say, is nothing but a congeries of sensible impressions, or ideas perceived by various senses:

> which ideas are united into one thing (or have one name given to them by the mind; because they are observed to attend one another." [76]

Mentalism claims that if this argument applies to cherries, then it would apply to all material bodies, including human bodies and brains. Each material body, hence, is a collection of sensations; and it is essentially a mental entity. The question is that why would mentalism hold that a cherry is a collection of sensations. The answer for Berkeley was that each perceivable quality of the cherry was a sensation. Furthermore, the cherry is best understood as a collection of its qualities. The implication of this claim is that if the qualities of the cherry were sensation, then it would exist only when it was perceived. In support of this claim, Berkeley challenges the opponents to conceive or imagine the cherry existing when not perceived. Any attempt would be at the same time perceiving the cherry with its qualities. Therefore, since we cannot conceive a cherry existing unperceived, no entity exists unperceived.[77] The problem with the *conceivability* argument is that it does not distinguish between thinking and perceiving. *Thinking of* the cherry is not the same as *perceiving* the cherry.

3.3 Hume's criticism:

We mentioned above that without God Berkeley's mentalism is reduced to the position that the only entities that exist are our own mental states. Hume begins his analysis, exactly, at this point. Hume agrees with the main assertions of Locke and Berkeley, and develops the position to its logical conclusion. Hume agrees that the objects of sensory knowledge are our own ideas. Furthermore, all our knowledge is derived from our ideas.

In addition, he agrees with Berkley in rejecting the notion of substance as unintelligible. However, Hume rejects the idea of God as the guarantor of the reality. According to Hume, if we hold to the view that all our knowledge is derived from the simple ideas from sense experience, we must acknowledge that we have no experience of God. Hence, we cannot invoke God's existence as the guarantor of the existence of the world when we do not perceive it. Remaining faithful to the empiricist position, Hume

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[76] Berkeley, *Dialogues*, p. 81.
[77] Berkeley, *Principles*, p. 32-33.

claims that there is no reason to believe in the existence of anything that we do not immediately perceive.

Hume divides the mental states into two types. There are *impressions,* which are produced by sense experience, passions, and emotions; and there are *ideas.* Hume expresses this distinction in the first passage of the *Treatise of Human Nature:*

> "All the perception of the human mind resolve themselves into two distinct kinds, which I shall call impressions and ideas. The difference betwixt these consists in the degree of force and liveliness, with which they strike upon the mind, and make their way into our thought or consciousness. Those perceptions which enter with most force and violence, we may name impressions; and, under this name, I comprehend all our sensations, passions, and emotions, as they make their first appearance in the soul. By ideas, I mean the faint images of these in thinking and reasoning; such as, for instance, are all the perceptions excited by the present discourse, excepting only those which arise from the sight and touch, and excepting the immediate pleasure or uneasiness it may occasion."[78]

It is important to note that the difference between impressions and ideas is based on their intrinsic qualities and not their external relationships. Here, Hume attempts to avoid Locke's mistake. If all we know are our own ideas, then the distinction between our mental states can only be based on their internal differences and not their external reference. The deprivation of the external reference compels Hume to fall back upon a principle of intrinsic factor, which he calls *degree of liveliness.* However, this criterion breaks down in the extreme cases, in which the ideas have as great a degree of liveliness as impressions:

> "Every one of himself will readily perceive the difference betwixt feeling and thinking. The common degrees of these are easily distinguished; though it is not impossible but in particular instances, they may very nearly approach each other. Thus, in sleep, in a fever, in madness, or in any very violent emotions of soul, our ideas may approach to our impressions: as, on the other hand, it sometimes happens, that our impressions are so faint and low, that we cannot distinguish them from our ideas."[79]

In the last analysis, there seems to be no satisfactory distinction between mental contents, which Hume believes constitute our knowledge. Our experience is of our own mental

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[78] Hume, D., (1978) A Treatise of Human Nature, ed. L. A. Selby-Bigge, 2nd ed. Oxford University Press, p. 1.
[79] Hume, A Treatise of Human Nature, p. 1.

states. Some of these mental states are more violent and vivid than the others. We call these impressions; and we believe that they have external causes. However, we do not know those external causes.

Hume also agrees with Berkeley in that our impressions and ideas are fragmentary and isolated. They are connected when they enter the mind; and the mind does not actively connect them. However, experience requires some sort of connectivity of the sense perceptions. Hume claims that some of our impressions habitually go together. For instance, impressions of whiteness, sweetness, squareness, and roughness habitually combine to yield the conception of sugar. However, this habitual connection is by no means a necessary connection. Hence, the unifying principle is "a gentle force, which commonly", not universally, "prevails", and it is based on the agency of mind. As a result, all we can claim is that some impressions naturally cluster together to give us the idea of physical things. This clustering is contingent upon factors, which are beyond minds control. Hume also criticizes the notion of substance as well:

> "The idea of substance must therefore be derived from an impression of reflexion, if it really exists. But the impressions of reflexion resolve themselves into our passions and emotions; none of which can possibly represent a substance. We have therefore no idea of substance, distinct from that of a collection of particular qualities, nor have we any other meaning when we either talk or reason concerning it." [80]

3.3.1 Hume's theory of causality:

The doctrine of the *association of ideas* has significant implications. The doctrine rejects the necessity of the laws of cause and effect; the law of causality is a further example of a particular association of certain ideas, which are habitually found together. A close inspection of a causal-relationship reveals that there is no inherent quality about the objects of the relationship, which would reveal causal properties. In other words, there is nothing about the objects of such relationship that would indicate causality. A causal relationship, however, must have the following properties: contiguity, priority, and necessity. The cause of an effect must be logically and temporally prior to its effect. The cause and the effect must be contiguous. However, priority and contiguity are not sufficient

[80] *Ibid*., I, i, 6.

reasons for a causal relationship. Necessity is the factor that is most important in the establishment of causal relationship. When we examine the supposed causal-relationships, we can establish the contiguity of two factors. We can point out the priority of one factor to the other, but we can never positively identify necessity.

According to Hume, ideas are distinct and separable from each other. Therefore, the existence of one idea is not necessarily caused by another idea. Hume invites to imagine a container full of water. This container is sitting on the top of a stove. We can imagine that water boiling without any heat applied to it. Hume argues that the idea of boiling is distinct and separate from the idea of heating. The two ideas are independent from each other; hence they can be imagined independent of each other. The imagination of separate ideas implies their possibility and this possibility are all needed to point out the absence of a necessary connection. Put in the modern terms, Hume warns against the analyticity of the terms cause and effect.[81] Every cause has an effect and vice versa. This is a true statement by the virtue of their concepts. The concept of the effect is already implied by the concept of the cause. This is an analytic statement. It is always true just like the statement ' all bachelors are unmarried men' is always true. But this doesn't imply that next man who we confront and doesn't wear a ring is a bachelor. At same token, the existence, and coming to existence, of an idea does not guarantee its being caused. Absence of causes is imaginable and indeed possible as it was illustrated by the boiling water example, according to Hume. The notion of causality can't be extracted from our experiences. When we look at a hammer hitting a nail, we can see the hammer's movement. We can observe the moment of contact between the hammer and the nail. We can see the movement of the nail as it is driven into the piece of wood. But we can't observe the causality. In other words, we can observe contiguity and priority, but we never observe the necessity. There is nothing in the sense-impression that reveals causality. We cannot deduce a causal relation from our experience.

Hume points that in the 'causal relationships', we observe an additional factor to contiguity and priority. This additional factor is regularity. Causal relationship between two objects is observed as a regular event. The ' causal relationship' happens with a predictable regularity. However, regularity doesn't yield necessity, but necessity is the hallmark of

[81] Kenny, *History of Western Philosophy.*

causality. Regularity only reveals repetition in predictable intervals; it doesn't lead to necessity. However, contiguity, priority, and regularity produce a psychological effect in the observing individual. This psychological phenomenon is expectation. When the light turns red at the intersection, the cars stop. Observing this event regularly and constantly in the order described will lead me to expect the cars to stop at the next red light. This expectation leads to an idea of determination from the red light to the stopping of the cars. This determination leads to a sense of necessity between the two events. Therefore, the idea of necessary connection between two events results from regular conjunctions between the events. This necessary connection is nothing but product of thought and imagination. The necessary connection is a reference drawn from past regular conjunctions between two events. Therefore, we come to necessary connection via inductive reasoning and not deductive reasoning.

Causality is the projection of a necessary connection as it is inferred from a regular conjunction between two events. Therefore, causality is nothing further than the contiguous, prior, and regular conjunction of one event with another as it is fabricated as a necessary connection between the two events by the imagination and projected onto the world. Hume, as mentioned before, argues that the necessity is inferred inductively from past events. Therefore, this type of inductive demonstrations and arguments are based on probability and not truth and falsity. Inductive arguments can't establish truth-values. In fact the truth and falsity of an inductive argument can neither be established by intuition nor demonstration. It is important to remember that Hume rejects the notion of causality as a necessary connection between two events. However, he insists that in our every day life we infer causality and we are not wrong in doing that. It is that causality is not based necessity but regular conjunctions.

> "It appears then, that this idea of necessary connexion among events arises from a number of similar instance which occur of the constant conjunction of these events…But there is nothing in a number of instances, different from every single instance, which is supposed to be exactly similar; except only, that after a repetition of similar instances, the mind is carried by habit, upon the appearance of one event, to expect it usual attendant, and to believe that it will exist. This connexion, therefore, which we feel in the mind, this

customary transition of the imagination from one object to its usual attendant, is the sentiment of impression from which we form the idea of power or necessary connexion."[82]

It is important to point out that Hume believes that principle of sufficient reason cannot be intuited or demonstrated as well. The principle of sufficient reason is formulation of necessary connections and causal relationships. In his 'no argument' argument, Hume makes it clear that there is no mode of argument that will take us from the cause to the effect. Inductive arguments are based on likelihood and therefore, they are inconclusive. There is no deductive argument that would prove causality conclusively as well. The problem is that why set the standards at an unnecessary level. The Earth is about five billion years old. This means that the sun has been setting and rising for about 1.5 trillion times before. I believe that this would give a good indication of what will happen in a few hours. This is as certain as we might or should expect. Another problem is that deductive argument only establishes the derivability of a conclusion from its premises. It does not and cannot make any claim about the truth of the premises or the inference rules. In this respect, deduction is very limited.

3.3.2 Hume's theory of identity:

A further momentous implication is the denial of the unity of the self. Hume eliminates the notion of self and replaces it with by a succession of psychological states that normally are assumed to belong to the self. Hume asserts that all there is a stream of consciousness, which includes psychological events such as moods, fears, hopes, wishes, thoughts, ideas, and sensations. In other words, there is no unifying, and continuing self who has the moods, fears, hopes, wishes, thoughts, ideas, and sensations.

Hume invites to imagine that we can look into our minds. As I look into my what is that I find (some would say that I will find vast space and nothing else but let's be positive for the present purposes). As I look into my mind I find passing perceptions. Some of these perceptions resemble sense-impressions and some other resembles other ideas. Some of these ideas are characterized by vivacity and Hume calls these ideas memories. The majority of the content of the mind are memories. Therefore, the mind is made up

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[82] *Ibid*., §VII, Pt. II.

perceptions that resemble each other in a direct or indirect manner. Memories alone cannot account for identity, since they don't account for continuity of identity over a lifetime. We believe that we are the same individuals from infancy to old age. Another problem with memories is that memories fade away, but we don't consider this degradation to undermine our identity. Therefore resemblance alone cannot account for personal identity.

> "If any impression gives rise to the idea of self, that impression must continue invariably the same, thro' the whole course of our lives, since self is supposed to exist after that manner. But there is no impression constant and invariable. Pain and pleasure, grief and joy, passion and sensation succeed each other, and never all exist at the same time. It cannot, therefore, be from any of these impression or from any other, that the idea of self is derived; and consequently there is no such idea…
>
> For my part, when I enter most intimately into what I call myself, I always stumble on some particular perception or other, of heat or cold, light or shade, love or hatred, pain or pleasure. I can never catch myself at any time without a perception, and can never any thing but the perception. When my perceptions are removed at any time, as by sound sleep; so long am I insensible of myself, and may truly be said not to exist. And were all my perception removed by death, and could I neither think, nor feel, nor see, nor love, nor hate after the dissolution of my body. I should be entirely annihilated, nor do I conceive what is further requisite to make me a perfect a non-entity. If any one upon serious and unprejudiced reflexion thinks he has a different notion of himself, I must confess I can reason no longer with him." [83]

Hume claims that the concept of identity is derived from positing a causal relationship between perceptions. Causal relationship between the perceptions introduces an element of explainibility. This means that my past explains my present and my present explains my future. My life is made into a coherent and intelligible narrative, in which each event is explainable by another event since they are in causal relationship. However, this causal relationship is a product of imagination. Causality is not an inherent quality of our world but it is a product of our mind in its search for intelligibility. Perceptions are not in reality causally connected, but they are conjunctions of resembling sense impressions and

[83] *Ibid*., I, iv, 6.

ideas. They are formed by imagination for the sake of coherence and out of habit. Personal identity is a fiction. This is a universal condition of all humanity.

> "I may venture to affirm of the rest of mankind, that they are nothing but a bundle or collection of different perceptions, which succeed each other with an inconceivable rapidity, and in a perceptual flux and movements…The mind is a kind of theatre, where several perceptions successively make their appearance; pass, re-pass, glide away, and mingle in an infinite variety of postures and situations. There is properly no simplicity in it at one time, nor identity in different; whatever natural propension we may have to imagine that simplicity and identity. The comparison of the theatre must not mislead us. They are successive perceptions only, that constitute the mind; nor have we the most distant notion of place, where these scenes are represented, or the materials, of which it s composed."[84]

The problem is that universality leads to necessity and Hume denied the former. In other words, why is it necessary and universal for all human beings to fabricate the fiction of identity? The answer to this question is up to empirical psychology, but the condition that raises this question is a contradiction in Hume's theory. It seems that activity of imagination is based on a universal and necessary conditions. In fact the universal and necessary condition is presupposed by imagination.

The second problem is the rejection of self-consciousness. Hume's invitation to self-reflection presupposes self-consciousness. The fact that self-consciousness is not observed is that it is the observer. I can see the world with my eyes, but I cannot see my own eyes. The question that skepticism asks is if the world really is at it seems to me. The very condition that makes the skeptical question possible refutes skepticism. That is self-consciousness.

At this point, let us trace back the mentalist position in its philosophical and historical outlines. Locke postulated three parts to his theory of perception:

1) The knowing mind,
2) The ideas, which are known,
3) the objects, which cause the ideas.

Berkeley rejects the objects of the external world (3). He introduces the concept of God as the guarantor of reality. However, the assumption of God's mind is inconsistent

[84] *Ibid*., I, iv, 6.

with the premise that all knowledge is rooted in sense experience. Hume, by rejecting the concept of God due to empiricist consideration, eliminates the existence of external objects (3). Moreover, through his analysis of the concept of self, he eliminates the knowing mind (1) as well. Consequently, all that is left are the ideas (2). According to Hume, the ideas are conscious and known, but there is no self to know the ideas and be conscious of them. Hence, the world is reduced to a set, and succession, of known and conscious ideas, which are not ideas of anything and are by illusion mine. This is the logical conclusion of the mentalist position. This is solipsism.

Solipsism states that, because all we know is are our own mental states, nothing other the mental states can be known to exist. There is no justification for believing in the existence of an entity that cannot be known. Hence, as far as I can tell, my mental states constitute the universe. This position seems to be logically irrefutable. However, there seems to be no reason to think it to be true. We will return to this point later, in our discussion of the phenomenological position. The solipsist position seems hard to accept, because it ignores one of the fundamental properties of consciousness: intentionality. It is of the nature of consciousness to be *of* something. The fact that consciousness is necessarily directed toward objects does not resolve the question of the existence of the external world, but dissolves it.

Another reason that solipsism may be unacceptable is that in order to know that a thought is true we must know that it refers to something other than itself. However, if we know only the contents of our mind, then this criterion can never be satisfied. Hence, we can never know that a thought is true. Consequently, we can never know solipsism to be true. At this point, it seems that the logical conclusion of mentalism, solipsism, should be rejected, because it is self-refuting and it denies the intentionality of consciousness.

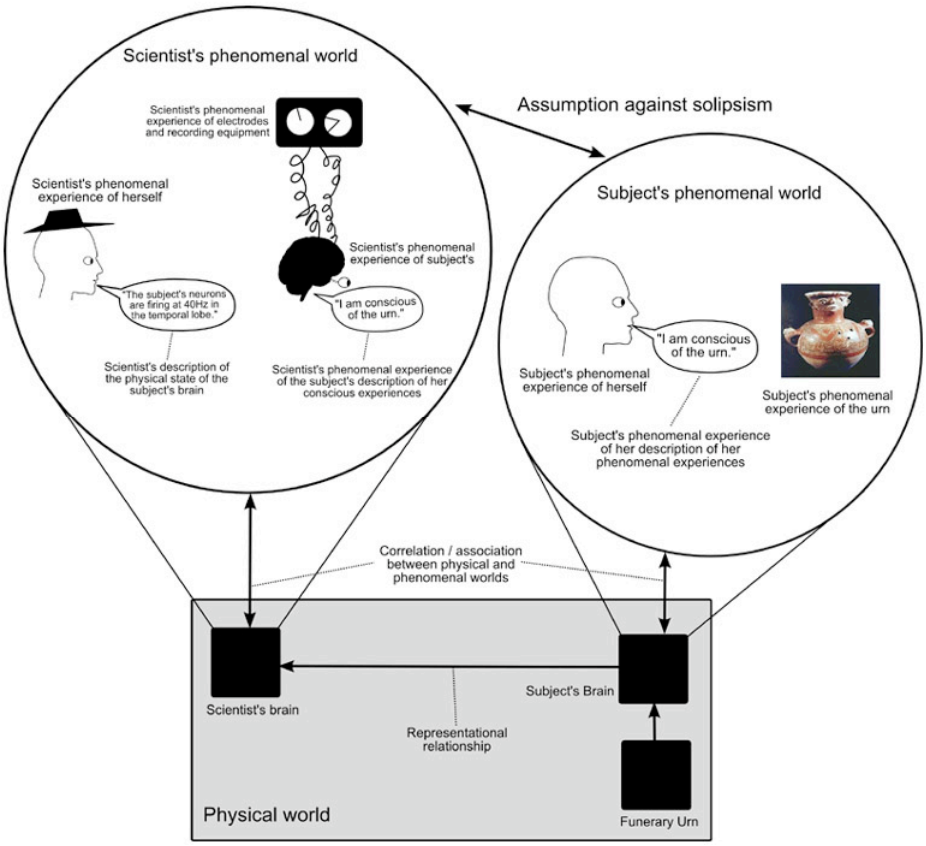

Fig. 3.4: Solipsism and the physical world (www.en.wikipedia.org)

3.4 Further Problems and Conclusion:

There seems to be two further major problems with mentalism. First, if objects exist only in our minds, then what becomes of them when we do not perceive them? If empiricism is incompatible with knowledge of God, there seems that the object would pop out of and into existence randomly. However, this seems to against our experience of the continuity of objects. When I light a candle before I leave my room, upon my return to the room the candle has burned continuously. I know that, because I can observe the physical changes in the shape and the height of the candle. This can be if and only if the candle existed during my absence. Hence, experience points to the existence of unperceived objects, while mentalism denies their existence.

The second problem with mentalism seems to be that it denies the possibility of science. The question is that what the laws of nature are, and how is scientific inquiry possible. If mentalism is true in what it asserts, the scientist's world and the methods, by which he/she explores it, are composed of ideas in minds. However, science assumes

matter to be real. Therefore, no conclusion drawn by scientific methodology can be true. The point is that if everything is an idea in somebody's mind, then science is also an idea in somebody's mind as well. This means that science is relative to the perception of the perceiver. This seems highly unreasonable based on our interactions and experience in the world. Our everyday use of technology points to the other direction.

At this point, it seems reasonable to assert that mentalism is an untenable position. Hence, it must be rejected.

Chapter Four

Reductive Materialism

As we have discussed in a previous chapter, the classical theory of dualism is substance dualism. This position maintains that there are two distinct, and independent, realms of reality. One realm consists of mental entities. The other realm is comprised of material substances. Furthermore, these two dominions of reality are associated with two kinds of properties: mental and material. Hence, substance dualism entails property dualism. As we have seen in the chapter on dualism, substance dualism has been largely abandoned. Even the proponents of dualism, such as Popper, have given up substance dualism in favor of a kind of dualism, which treats consciousness as a process rather than a substance[85].

Today, the dominant position is ontological physicalism.[86] According to ontological physicalism, there are no concrete existents, or substances, in the spatio-temporal world other than material existents. Material monism seems to be the undisputed view. However, the discussion revolves around the nature of properties of material substances. The outstanding question is how material and mental properties are related to each other and to material substances. In this discussion, the point of contention is whether mental properties are reducible to material qualities. The view that contends that mental properties are reducible to material properties is called reductive materialism. Consequently, ultimately, there are no mental properties. All mental properties are, in the final analysis, reducible to material attributes. The position that maintains that mental properties comprise a dependent yet irreducible realm of attributes is called non-reductive materialism, or property dualism. For non-reductive materialism, mental properties comprise a kind of higher-level properties, which make up an autonomous and irreducible realm of qualities. It is not that we don't have the proper tools to undertake a successful reduction, but such reduction is inherently impossible, because mental attributes occupy a different aspect of reality from the material properties. Hence, psychology cannot be reduced to physics, since psychology describes a different and higher level of reality than physics.

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[85] Kim, *Philosophy of Mind*.
[86] Braddon-Mitchell, *Philosophy of Mind and Cognition*.

In this chapter, we take on the task of exploring reductive materialism. In the next chapter, we devote our attention to the understanding and critical analysis of non-reductive materialism. However, we should start our investigation by exploring two general, but very important questions. What is materialism in general? And what is reduction?

4.1 Defining Materialism:

We saw that the difference between dualism and materialism is the denial, or the acceptance, of the proposition that a detailed description of our physical make-up is enough to explain the mental aspect of our existence. Views that uphold this proposition are materialistic, or physicalistic; positions, which reject this proposition, are dualistic. However, this definition of materialism is at best imprecise and incomplete. We can achieve a bit more clarity by introduction and exploration of two main questions:

1. What entities count as physical?
2. What does it mean to say that the physical entities comprise the necessary and sufficient condition for the description of the mental world?

Let us begin by investigating what would count as a physical entity. The short answer to this question is that physical world is made of entities posited by the physical sciences. This includes physics, chemistry, biology, and the related fields. Materialism, furthermore, maintains that the entities posited by social sciences, such as psychology and sociology, are physical in nature as well. Hence, psychological events, processes, and states, which are described within the context of social sciences, are by definition material entities.

Materialism, in general, falls in two camps.[87] This typology depends on the relative strength of the description of the relationship between the material and mental properties. Let us recall that all materialists subscribe to the principle of ontological physicalism, which posits the existence of only material substances. The difference in the physicalist point of view comes about in the description of the nature, and relationship, between material and mental properties.

Reductive materialism makes a strong claim about the nature of mental properties. It states that mental properties are nothing above and beyond material attributes. One can

[87] Heil, *Philosophy of Mind*.

see mental concepts as having the same extension, or reference, as neurobiological concepts. The only difference is in the intension, or sense, of these concepts. This implies that mental and material concepts are synonymous. The difference is only in the language, which describes the same phenomenon in two different contexts. This is, essentially, the view championed by the identity theorists. To clarify this point, let us remember what the concept of meaning means within the philosophical discourse. According to Frege, a concept's meaning is comprised of two aspects: its sense or intension and its reference or extension.[88] A sense of a concept is its definition. For example, the sense of the concept of 'bachelor' is 'an unmarried male'. This is in essence the definition of the concept of 'bachelor'. The reference, or the extension, of the concept of 'bachelor' is all the males in the world that satisfy the requirement of being male and unmarried. Hence, extension is what we find in the world and intension is how we define a concept as a society or linguistic community.

There is, however, a more radical version of reductive materialism, which proposes that the talk of mental concepts is, in the final analysis, not only unnecessary, but also misguiding and destructive.[89] Mental concepts, according to this view, are the product of deluded human intellect reflected as folk psychology. Talk of mental concepts should be eliminated altogether.

A weaker version of physicalism maintains that the mental attributes comprise an autonomous, irreducible, yet dependent realm. Mental properties depend for their existence on material substances. However, they are neither identical, nor reducible to mental properties. This relationship is expressed in terms of the principle of supervenience.[90] We will discuss this principle in more detail in the following chapter. At this point, it suffices to point out the cardinal claims of weak physicalism, also called non-reductive materialism or property dualism.

Mind-body supervenience principle states that mental attributes supervene on physical properties in a way that any two entities, exactly identical in physical qualities cannot differ in mental attributes. Consequently, physical indiscernibility entails mental indiscernibility. In other words, there can be no mental difference without physical

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[88] Lycan, W. G., (2008) *Philosophy of Language: A Contemporary Introduction*, Routledge.
[89] Kim, *Philosophy of Mind*.
[90] *Ibid*.

differences. However, the converse relationship does not hold. Accordingly, two organisms, which are psychologically indistinguishable, are not necessarily physically indistinguishable. This means that mental states, processes, and events can be realized by a variety of neural, or theoretically non-neural physical, structures.

The other pillar of non-reductive physicalism is the *anti-Cartesian principle*. This principle states that there can be no purely mental entities. This implies that no entity can have a mental attribute without a physical base. This affirms the dependence, and determination, of mental properties on a physical base. This implies that psychological attributes are dependent on, and determined by, biological properties. This point expresses the third foundation of weak physicalism: the *Mind-body dependence principle*. The dependence principle is an affirmation of the priority and primacy of physical substances as it is stated in ontological physicalism.

The dependence principle also imparts to non-reductive physicalism its explanatory powers. Accordingly, all mental events, processes, and states can be explained by describing their higher-level concepts and by investigating their physical base. So, the study of psychology becomes:

1. The study, and critical analysis, of psychological theories and concepts themselves.
2. The study of neural correlates of those psychological events, states, and processes.

This is one of the advantages of non-reductive physicalism. It does not sacrifice complexity and variety at the altar of simplicity. It maintains that both of these aspects are equally important in an explanatory project.

At this point, we can summarize weak physicalism as a position, which maintains the principles of:

1. The Mind-body supervenience principle.
2. The Anti-Cartesian principle.
3. The Mind-body dependence principle.

Now, we can ask the general question of what defines materialism. The answer is that all varieties of materialism are based on three main principles:

1. *The principle of ontological physicalism*, which states the priority and primacy of physical substances.
2. *The principle of physical determination*, which maintains that all mental attributes, or any other higher-level properties, are dependent on, and are determined by, physical properties.
3. *The principle of the causal completeness of the physical world*, which states that physical conditions are necessary and sufficient for the existence of all phenomena.

We saw earlier that Popper denies these three principles as the basis for his dualism. He rejects the ontological primacy of material substances by appealing to subjective experience as being irreducible to them. Furthermore, he dismisses the physical determination principle by claiming that the universe is, in fact, indetermined and open. He relies heavily on quantum mechanics for substantiation of his position.[91] But does quantum mechanics support such claim?

It is true that quantum mechanics rejects Newtonian mechanics by claiming that in the universe, at the quantum level; no event can be predicted with certainty. The occurrence of events is based on probability functions. So, no physical cause can absolutely determine an effect. All it can accomplish is to set a probability of something occurring. However, this notion of indeterminacy does not seem to affect the principle of physical determination, since the relevant point is that physical events are determined by physical causes. Quantum mechanics does not claim that non-physical causes can determine physical events. This is, exactly, the claim that dualism needs. *Principle of Uncertainty* puts the strictness of determination in question and not the nature of the determinant. In other words, it does not doubt the fact that physical entities set the probability for occurrence of other physical entities. Quantum mechanics denies the validity of Newtonian mechanics at the micro-level, but it is not an argument for dualism.

Popper, further, rejects the causal completeness principle. Carnap formulated this principle. However, it is not a conclusion of the failed positivist project. The causal completeness theorem is the philosophical formulation of the *Law of Conservation of Energy*. According to this law, when one physical body, B_1, applies force to another

[91] Kenny, History of Western Philosophy.

physical body, B_2, in order to do work within the context of a closed system, the total amount of energy in this closed system before and after of the application of the force must remain equal:

(1) For any closed system S, $E_{BEFORE} = E_{AFTER.}$

In the case of causal completeness theorem, we replace the term energy with cause, because energy by definition is the ability to do work, to perform something, or to bring about some change in the world. This is what we mean with cause as well. Now, we should ask ourselves what kind of forces could be taken in consideration. In physics, there are four fundamental forces:

1. The gravitational force.
2. The electromagnetic force.
3. The weak nuclear force.
4. The strong nuclear force.

In physics, this seems to be an exhaustive list. To introduce any force different from these four forces will entail the destruction of energetic equality between the pre-application of force and post-application of force states. The post-state will have more energy. This is a violation of this fundamental law of physics. To sacrifice this law at the feet of dualism seems unreasonable. Mental causes can make only sense in terms of mental energy bringing about some change in the physical world. However, mental force is not part of this list and it is not identical with any one of these forces. Hence, it seems that introduction of mental causation is a rejection of causal completeness principle and the law of conservation of energy. On the other hand, there is the evidence of first-person perspective and its indubitability. This subjective experience seems to be undeniable. What can we do? In any event, dualism seems to rip no benefit from this dilemma.

Next, we will devote our attention to the second important question of our original concern in this chapter.

4.2 What Is Reduction?

Reduction, primarily, serves an explanatory role in order to simplify the diversity of the world in terms of known phenomenon. It is a simplification process. There are four different types of reduction:[92]

1. Ontological reduction.
2. Methodological reduction.
3. Semantic reduction.
4. Theoretical reduction.

Today, reduction is, primarily, based on a relation between two scientific theories. The most promising type of reduction is theoretical reduction. In this sense, a theory is comprised of a set of statements, which represent the laws of that theory. A theory is usually comprised of three components:[93]

1. Axioms: all the foundational laws, upon which other claims of the theory are built.
2. All the statements, which are logically, and mathematically, derived from the axioms.
3. The specific vocabulary, which act as the set of descriptive expressions, such as mass, energy, genes, etc.

The task of reduction of theory T_2 to the theory T_1 consists of deriving the laws of T_2 from the laws of T_1. In other words, the theorems of T_2 can be proven from the theorems of T_1. This derivation is accomplished through bridge laws.[94] Let us explore the notion of bridge laws by going through an abstract example.

Imagine one of the laws of T_2 is:

(1) For anything x, if x has property P, then x has property Q.

It is important to note that P and Q are properties expressed in T_2 expressive vocabulary. We cannot simply plug them in the set theorems of T_1. That would be nonsensical, since P and Q are not part of the set of descriptive expressions of T_1. Here, we need principles that close the gaps between the theorems of T_1 and T_2. This function is accomplished by bridge principles. Consequently, bridge laws are those principles, which relate P and Q to the

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[92] Braddon-Mitchell, *Philosophy of Mind and Cognition*.
[93] Rosenberg, A., (2005) *Philosophy of Science: A Contemporary Introduction*, Routledge.
[94] *Ibid*.

expressive vocabulary of T_1. Now imagine that we can produce two bridge principles for P and Q.

(2a) For anything x, x has property P if, and only if, it has property P*.

(2b) For anything x, x has property Q if, and only if, it has property Q*.

Note that in this case, P* and Q* are predicates from T_1. Using (2a) and (2b), we can make the following statement:

(3) For anything x, if x has the property P*, then x has the property Q*.

We can see that through bridge principles (2a) and (2b), a lawful principle of T_2 can be proven by T_1. We could say that T_1 substantiates T_2. Hence, T_2 is reduced to T_1, provided that all laws of T_2 are logically and mathematically derivable from T_1 aided by appropriate bridge principles, which connect the expressive terms of T_2 to the expressions of T_1.

Bridge principles can be thought of as translators. For every T_2 expression and principle, the appropriate bridge law gives us the correct T_1 phrase and theorem. The question is then how is this act of translation possible. There seems to be two distinct possibilities, which can be interrelated. First, bridge laws can be *definitions*, which describe and identify T_2 expressions in terms of T_1 phrases. The second possibility is that bridge laws can be *empirically observed lawful relationships* between two parameters. Theses two possibilities, however, are not mutually exclusive of each other.

The other important characteristic of bridge laws is that they are expressed in the form of biconditional statements—if and only if.[95] There is an important reason for the usage of biconditional statements. Propositions of the biconditional type guarantee the derivability of the laws of T_2 from T_1 by identifying the expressive terms of T_2 with those of T_1. In our case, P=P* and Q=Q*. This implies that the facts of T_2 are nothing above and beyond the principles of T_1. These are the same facts expressed in two different theoretical languages. Consequently, the identity relationship becomes the basis for reduction, since identity guarantees reduction.

At this point, let us examine the benefits of reduction. There seems to be two main advantages of reduction:

1. Ontological simplicity.
2. Explanatory power.

[95] Rosenberg, *Philosophy of Science*.

The ontological simplicity of reduction consists of the ability of reduction to systematize and unify our theories and knowledge. When we reduce one theory to a base theory, we reduce our independent assumptions about the world. The world is not comprised of many independent facts and entities, but a few facts, which can be expressed in many ways depending on the context of our interest.

The second major advantage of reduction is that it gives us the most direct avenue for explanation of a phenomenon. This explanatory task is the trademark of scientific investigation. When we, for example, explain why the relationships within Mendelian genetic laws obtain, we refer to the properties, and action, of DNA during cell division in Mitosis and Meiosis. This is a sort of explanation, which is only possible by a reduction to more fundamental facts about the world. In fact, almost all explanatory attempts in science are reductive in nature. When we come across a new phenomenon, we have to explain it. This explanation cannot succeed by branding the new phenomenon as simply a brute fact. This does not explain our problem; it only names it. Explanation can only succeed, if we can relate the given phenomenon to other known phenomenon.

At this point, the pressing question is whether mental events, processes, and events can be reduced to physical events based on the conditions we formulated above. The majority of antireductionist positions point out the unfeasibility of bridge laws in the reduction of mental states to physical structures.[96] In particular, the attainment of bridge laws in form of biconditionals seems to be doubtful. This project would require the presentation of nomologically necessary and sufficient conditions in physical terms for mental terms. This is not an unjustified requirement. In fact, it seems appropriate, since the biconditionals guarantee the success of the reductive endeavor, as we discussed above.

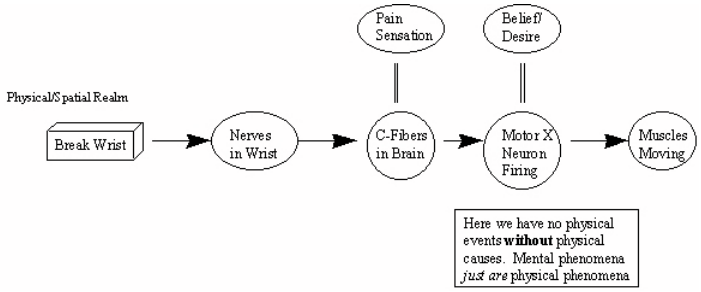

Fig 4.1: Reduction of mental states (www.reference.findtarget.com)

[96] Braddon-Mitchell, *Philosophy of Mind and Cognition*.

The next problem is that the only available, and reducible, psychological terms are those provided by folk psychology. However, folk psychology is the very concept, which reductive materialism wants to eliminate. In other words, reductive materialism needs folk psychology for its reduction of mental concept to physical concepts, while it rejects folk psychology. This seems to be contradictory.

Another reason for requiring biconditional statements, as we have seen before, is that they provide identity relationships between physical properties and mental attributes. This leads to a simplification of our ontology, which is one of the major advantages of reductionism. Hence, requiring biconditional forms seems justified and appropriate.

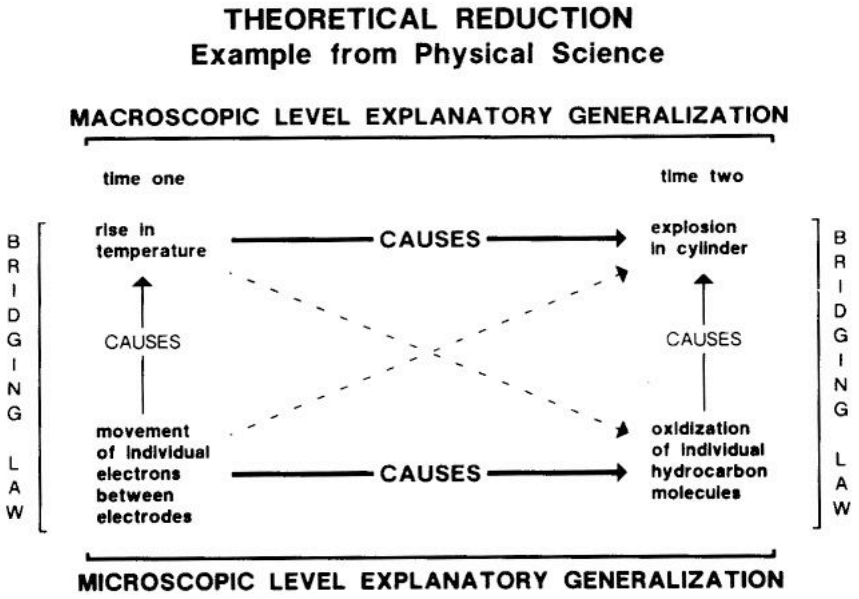

Fig. 4.2: Reductionism and explanatory scheme (www.pep-web.org)

4.3 Classical Materialism:

Thomas Hobbes presents the classical formulation of reductive materialism. The center point of Hobbes theory is his notion of *sense*, which is the source of all imagination, cognition, dreams, and memories, "for there is no conception in a man's mind, which hath not at first, totally or by parts, been gotten upon the organs of sense. The rest are derived from that original."[97] He further claims, "Some internal motion in the sentient, generated by some internal motion of the parts of the object, and propagated through all to the innermost

[97] Hobbes T., (1970) *Hobbes Selections*, ed. F. J. E. Woodbridge, New York, Scribner, p. 139.

parts of the organ."[98] This internal motion would be any physical event in the central nervous system. Consequently for Hobbes, everything mental is either a part of sense, or derived from it. For instance, pain is a physical event in the central nervous system within the person. For Hobbes, mental states are reducible purely to material states. In fact, any mental states can be explained in terms of material mechanisms. Hobbes makes this point explicit in *Leviathan*:

> "For seeing life is but a motion of limbs, the beginning whereof is in some principal part within; why may not say, that all *automata* (engines that move themselves by springs and wheels as doth a watch) have an artificial life? For what is the heart but a *spring;* and the *nerves* but so many *strings,* and the *joints* but so many *wheels,* giving motion to the whole body such as was intended by the artifice?" [99]

Living things, including humans, are essentially no different from non-livings entities. Living things are in principle machines, but much more complicated. One can predict and explain all the workings of machines by applying the laws of mechanics. By the same laws, one can explain and predict the behavior of living things. The laws of mechanical physics are sufficient to explain and predict the behavior of both inanimate and animate objects. Hobbes' version of materialism is mechanistic. However, it is important to note that mechanism is not essential to materialism, for materialism does not entail mechanism. It is quite logically possible for materialism to be true and some events happen by chance; and chance events are mechanistically explainable. Hence, materialism can survive the demise of mechanism. This fact was reflected by the rise of behaviorism, which is rooted in logical positivism. Here, the emphasis was shifted from a mechanical explanation to a behavioral explanation of mentality through the fulfillment of the criteria of verification and observability.

4.4 Behaviorism:

There is no doubt that there is a close link between behavior and mentality. However, what the relationship between behavior and mentality is, is the subject of controversial debate. William James, in his *Principles of Psychology,* points out the

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[98] Hobbes, *Hobbes Selections*, p. 107.
[99] Hobbes, *Hobbes Selections*, p. 136.

importance of behavior to mentality by stating: "The pursuance of future ends and the choice of means for their attainment are thus the mark and criterion of the presence of mentality."[100] For James, behavior acts as an indication for the presence of mentality, as a sort of signpost for mental states. In contrast to James, behaviorism maintains that behavior constitutes mentality. Consequently, having a mind is nothing above and beyond exhibiting, or having the disposition to exhibit certain publicly observable, and verifiable, behavior.

The behaviorist claim that mentality is constituted by behavior is in stark contrast and opposition to the intuitive view of mind as being, primarily, subjective and private. All aspects of mental life, being emotions and sensations that are mostly phenomenological in nature, beliefs and thoughts that are mainly intentional in character, or desires that are naturally both phenomenological and intentional, enjoy an epistemic asymmetry, which can only be accounted for through the subjective and private nature of mental states, processes, and events. Others can only *know of* the content of my mental experience through my testimony, but they can never *know* my mental states directly. There is a definite qualitative difference between the first-person perspective and the third-person perspective. Hence, the intuition is that behavior is a semi-reliable indicator of mental states. Behavior is semi-reliable, since we know we can fake a mental state by exhibiting a different behavior. We can pretend to act exuberant, while we are furious. In fact, most acting, in an artistic sense, is based on feigning.

The major philosophical consequence of this intuition is *the problem of other minds.* The point is that if behavior is a semi-reliable indicator of the presence of a specific mental state, or mental states in general, and behavior is all that is publicly observable and I have no direct access to the subjective experience of others, then I cannot really know whether there are minds other than mine. This dilemma becomes one of the starting points of the behaviorist project. In fact, behaviorism accepts the conclusion of this dilemma, of the impossibility of knowing other minds, and concludes that postulation of other minds as an entity independent of behavior is unnecessary and harmful. So, why should we believe that there exists anything other than behavior, which is the only observable and verifiable entity?

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[100] James W., (1981) *The Principles of Psychology*, Harvard University Press, p. 15.

Wittgenstein's *Beetle in the Box* metaphor inspired this conclusion of behaviorism, and logical positivism.[101] Let us imagine that each one of us has a little box. In each box, there is something. However, only the owner of the box has access to his, or her, box. No one can look into another person's box. Now, each of us claims that he, or she, has a Beetle in their box. However, the problem is that there is no way for anyone of us to know that others mean the same thing by claiming to have a Beetle. There is no guarantee that the term Beetle refers to the same concept for all of us. It is logically conceivable that we all own radically different objects, which we call Beetle. What does this say about the concept of Beetle then? It implies that the concept of Beetle is vacuous, since we cannot know what others mean by Beetle, or what does it really refer to. Wittgenstein maintains that, in this case, the idea of Beetle *cancels out* and it becomes meaningless. It can play no role in meaningful discourse.

Fig. 4.2: Behaviorism (www.edtechguy.wordpress.com)

Behaviorism maintains that postulation of any internal mental state will pose the same dilemma and conclusion as is the case of Beetles. In other words, the mind is like the box and the content of the mind is like the Beetle in the box. Talk of private, and subjective, mental states such as 'having a belief' are like saying that one has Beetle in one's Box. Hence, such talk is nonsensical, since it is not verifiable and publicly observable. The only tangible element is behavior. Hence, the only entity that should be posited is behavior. In this sense behaviorism is akin to eleminativism. It seeks to do away with mentality altogether. However, what constitutes behavior?

Behavior is characterized by two basic features.

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[101] Wittgenstein L., (1953) *Philosophical Investigation*, translated by G. E. M Anscombe, Oxford Blackwell, §293.

1. Behavior must be observable, verifiable, and measurable.
2. Behavior must be *intentional.*

We have to explain what we mean by intentional. There is an important difference between something that I do and something that is done to me. The difference is in causal explanation of certain action. So, here intentional refers to the *ultimate cause* of an action and not some sort of purpose. My stepping on your toe whether it was intended, in the regular sense, or not is my action, since I am the ultimate cause of that act. However, if I am pushed so that I step on your toe, then this act is not my act, since I am not its ultimate cause. It is true I am the *proximate cause* of this act, but I am not its ultimate cause. Only through ultimate causation one can assign ownership of a behavior to a person. The next question is what kind of things would count as behavior?

1. Physiological reactions and responses.
2. Physical acts and movements.
3. Mental acts.

Needless to say that behaviorism does not consider mental acts as proper behavior. For behaviorism, only physiological reactions and physical acts count as proper behavior. This implies that behaviorism eliminates mind from the discussion and concentrates on quantifiable parameters of behavior. In this sense, behaviorism is a form of eliminativism.

4.4.1 Logical Behaviorism:

Logical behaviorism uses *definitional* bridge laws to establish the reducibility of mental properties to physical attributes. Accordingly, if any mental expression M can be assigned a behavioral definition B, then that would provide us with bridge principles such as: 'M if, and only if B'.[102] Hence, a complete system comprised of such principles would reduce all mental attributes to physical behavior. Logical behaviorism maintains that all sentences using mentalistic terms can be converted by semantic analysis into sentences with terms referring to some sort of bodily behavior. It is true that some true sentences invoke mentalistic terms, but this does not imply that there are such things as mental entities, for one can reformulate any one of those sentences such that one uses only material objects, events, and states. The point is that to admit that a sentence is true does not commit

[102] Kim, *Philosophy of Mind*.

one to posit the existence of what it refers to. The claim is that what mentalistic sentences really refer to are physical, bodily behaviors. The key is the semantic analysis of the sentences. This analysis occurs in two ways:

1) *Explicit definition*: this method provides another linguistic expression, the *analysans,* synonymous with the expression to be analyzed, the *analysandum*.

2) *Contextual definition*: this method provides *analysans* such that a) each is synonymous with certain key terms containing the *analysandum;* and b) none includes any terms synonymous with *analysandum.*

Let us illustrate these by way of examples. 'Human' can be defined explicitly as 'rational bipedal animal'. We would also define 'bachelor' explicitly as an 'unmarried man'. However, the term 'existent' in the following sentence 'many astounding things are existent' can be contextually defined, as 'there are many astounding things'. In this case, the contextual definition does not contain any synonymous term with 'existent'. However, the two sentences are semantically equivalent. Hence, one term within a sentence can be analyzed by providing another semantically equivalent sentence. Furthermore, if for every sentence using the term 'existent', we can have a synonymous sentence, which does not contain 'existent' or any synonymous term; we have a complete contextual definition for the term 'existent'.

The implication of this type of analysis is that one can explain away, or eliminate, a term altogether without losing any meaning. It is to this analysis through contextual definition that logical behaviorism appeals. Logical behaviorism claims that all mentalistic terms can be explained by contextual definitions. For example, the sentence 'Mary has a stomachache' is synonymous with a sentence, which describes a set of publicly observable behaviors such as complaining, wincing, moaning, and clutching the stomach. Hence, the original sentence is synonymous with 'Mary is moaning, wincing, complaining, and clutching her stomach'. If it is true that the second sentence is synonymous with the first sentence, the second sentence has provided a contextual definition for the mentalistic term 'stomach ache'. Consequently, the mentalistic term is completely replaceable with physicalistic terms provided by the contextual definition. This implies that we can eliminate the mentalistic term altogether without loosing any explanatory or predictive powers. Moreover, the mentalistic term does not refer to any real entity. If we perform this analysis

for all mentalistic terms, we can replace all mentalistic terms with verifiable physicalistic terms; and eliminate all mental entities.

The argument can be formalized as such:

1) It can be shown that every sentence, which uses mentalistic terms, is semantically equivalent to a sentence, which uses exclusively non-mentalistic, behavioristic terms.
2) Therefore, there is no need to use mentalistic terms and mentalistic sentences to explain human behavior.
3) Hence, there is no need to assume that mental terms refer mental entities.
4) Consequently, one is justified in postulating that there are no mental objects, events, or processes.

The success of this argument depends on the acceptability of the first premise. Hempel argues for the acceptability of this premise by claiming:

> "All psychological sentences which are meaningful, that is to say, which are in principle verifiable, are translatable into propositions which do not involve psychological concepts, but only the concepts of physics. The propositions of psychology are consequently physicalistic propositions. Psychology is an integral part of physics." [103]

Take the sentence "Mr. Jones suffers from intense inferiority feelings of such and such kinds…."[104] Since this sentence can be confirmed or rejected by Jones's behavior, the sentences essentially "means only this: such and such happenings take place in Mr. Jones's body in such and such circumstances."[105] The conclusion for this case can be generalized to all mentalistic sentences, since this particular case is no different from any other case involving mentalistic assertions. Hence, the meaning of any mentalistic sentence is the behavior of some person or persons under certain conditions. This implies that for every mentalistic sentence one can find a physicalistic sentence having the same meaning. These physicalistic sentences refer to physical events, objects, and processes. The conclusion is that all mentalistic terms can be analyzed into behavioristic terms. If this is the case, logical behaviorism prevails.

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[103] Hempel, C., (1949) *The Logical Analysis of Psychology*, in H. Feigl and W. Sellers ed., *Readings in Philosophical Analysis*, New York, Appelton-Century-Crofts, p. 378.
[104] *Ibid*.
[105] *Ibid*.

It seems quite plausible to accept that we verify psychological sentences about people by observing people's behavior. However, Hempel also asserts that the meaning of sentences is the conditions of their verification. However, this assertion presupposes a certain theory of meaning, namely verifiability theory of meaning. According to this theory, all declarative sentences can be divided into two types: those that have truth-value and those that lack truth-value. Those sentences that have truth-value can be either true or false. Only those sentences that have truth-value are meaningful. The question is that how can one determine whether sentence have truth-value. According to this theory, sentences have truth-value only if they are analytically true (true by definition), or they are empirically observable and verifiable. All other sentences are simply meaningless; they are neither true, nor false. Mentalistic sentences, according to this view, are declarative as far they are verifiable by observation.

The problem with all this is that the verifiability theory of meaning is self-defeating. The theory claims that only analytic and empirically verifiable sentences are true. These requirements apply to the theory itself. However, the statement of the theory is not analytical, for the concept of the predicate is not included in the subject. In other words, it is not true by definition. The formulation of the theory is not empirically verifiable either. Take the sentence 'all humans are mortal', this sentence seems to be undeniably true, but according to verification theory of meaning this is a meaningless sentence. Hence, there seems to be good reason to reject the verifiability theory of meaning.

A further objection against logical behaviorism is that it cannot analyze belief sentences.[106] Chisholm maintains that all attempts to analyze belief sentences in terms of behavioral sentences fails. Chisholm believes that all attempts of analysis will ultimately culminate in either the 'synonymous' term actually not being synonymous, or that it has turned synonymous by some *ad Hoc* technical term, which is superfluous. He considers four main types of behavioral analyses of belief sentences: the specific-response analysis, the appropriate-behavior analysis, the satisfaction analysis, and the verbal-response analysis. Let us use the sentence 'Jones believes that there is a fire nearby'. The specific-response analysis would say that this sentence is synonymous with 'Jones exhibits fire-responses to his immediate environment'. Here, 'fire-response' is a technical term, which

[106] Chisholm, R. M., (1952), *Intentionality and the Theory of Signs*, *Philosophical Studies* Vol. 3, No. 4.

seems to be quite *ad Hoc.* The question is what does 'fire-response' mean? The answer could be that 'Jones is exhibiting the behavior which he exhibits when and only when there is fire'. This entails that Jones exhibits those behavior whenever there actually is fire. However, Jones can be wrong about his beliefs. The analysis cannot use the term 'whenever he thinks there is fire', because that contains a psychological term 'thinks'.

The appropriate-behavior analysis would analyze the original sentence as: 'under circumstances relevant to there being a fire nearby, Jones would behave in a way appropriate to there being a fire nearby'. Now, let us suppose that Jones is involved in a fire drill. Here, he would behave as if there were a fire, but no one can ascribe the belief that there is a real fire to him. The satisfaction analysis would yield the following analysis: 'Jones is in a bodily state which would be satisfied if and only if a fire were to occur nearby'. The counterexample for this case would be that Jones has heard on the radio that there is a fire nearby, and he has been searching for the fire, but he has not been able to find the fire. In this case, he cannot be ascribed to have to belief, while he might be showing the physical markers. Hence, the analysis fails again.

The verbal-response analysis yields 'Jones has relation B to 'There is a fire nearby' as a sentence in English'. Here, 'relation B' is an *ad Hoc* technical term to explain away the psychological term. Hence, it is superfluous and it must be rejected. At this point, it is reasonable to assert that the attempt to establish eliminative materialism via logical behaviorism has failed. Ontological behaviorism constitutes an attempt to reduce mentality to behavior ontologically. This is a strict sense of behaviorism and reductive materialism, which deals with facts and not statements.

4.4.2 Ontological Behaviorism

Another method of reduction, which is pursued by behaviorism, is an ontological reduction of mentality to behavior. According to ontological behaviorism, there exist no mental facts above and beyond behavioral facts. Moreover, there exist no mental states above and beyond actual or possible behavior. This claim denies any causal role to mental states. Let us clarify this point. Consider, the following statements:

(1) Pain= grimaces and grunts.

(2) Pain= the cause of grimaces and grunts.

Ontological behaviorism accepts (1) and rejects (2). Ontological behaviorism states that in the world there are no private and subjective experiences such as pains, itches, or aches. There are only observable behaviors or inclinations or tendencies to behave in a certain way.

The claim of ontological behaviorism is counterintuitive, since it seems to us, from our experience, that being in a certain phenomenological mental state causes grunts and grimaces, namely pain. So, our experience supports statement (2). This creates a problem for ontological behaviorism, since it claims to be empirical in nature. The aim of an empirical research project is, primarily, to explain experience and not explain it away necessarily. The task of any scientific theory is to exhaust all avenues of explanation. Explaining away a phenomenon should always be the last resort and not the first option.[107] Our intuition about our behavior is not based on some enigmatic and mystical premonition. It is based on the fact of our experience, in this case the phenomenology of my sensation of pain. It is the task upon the behaviorist to prove why our private and subjective behavior nothing other than illusion. The burden of proof is on the side, which makes the unintuitive claim. The fact that ontological behaviorism cannot account for the full range of human experience, and denies the first-person perspective without giving a good argument in favor of this denial, constitutes its failure. In fact, it seems like that a sensation like pain is nothing other than how it feels, its qualia.

4.4.3 Methodological Behaviorism:

Methodological behaviorism affirms a weaker version of ontological behaviorism, mainly, for the purpose of setting the parameters of the behaviorist project in psychology. According to this view, there is no necessity to posit private, inner, and subjective events, states, and processes, because they are, essentially, subjective. Purely subjective concepts can play no role in communication, because discourse is intersubjective by definition. Hence, subjective concepts cannot be scientifically studied. According to this view, mental concepts can have sense, or intension, but they definitely lack any reference, or extension. For instance, the states of being in pain could mean some inner state, but it does not refer anything that actually exists. Take the case of unicorn, for example. Unicorn has a definite

[107] Braddon-Mitchell, *Philosophy of Mind and Cognition*.

meaning and intension. However, the concept of unicorn does not pick out anything out there in the real world. It does not have a reference, or extension. It is not clear how this linguistic analysis of subjectivity makes any sense. The problem is that concept of unicorn is epistemically symmetrical, but having a pain is epistemically asymmetrical. It is not clear how a private and epistemically asymmetrical state such as having an itch has meaning but no reference.

The emphasis of methodological behaviorism, however, is the application of behaviorist philosophy to experimental psychology. Hence, it is a method of experimentation and therapy based on philosophical behaviorism as John B. Watson and B. F. Skinner envisioned it. The basic tenets of methodological behaviorism are:

1. Behavioral data constitute the only reliable and admissible type of information in psychological research.
2. Psychological theories may not invoke, or refer to, internal, subjective, and private mental states in their explanatory scheme.

The reason for the first requirement is that only behavior constitutes an observable and verifiable entity. That is because only observability and verifiability ensure testability of data by many different researchers. The second tenet maintains that parameters such as positive and negative reinforcement, punishment, stimulus, and response are the only experimental and methodological factors that are needed to produce a complete psychological theory for explaining the behavior of individuals. Moreover, the difference in the behavior of individuals can be explained by the history of reinforcements and punishments that a person receives. In other words, two organisms exhibit different behaviors to the same stimulus based on their past histories of external stimuli, elicited behaviors, rewards, and punishments. Here, it seems vague what the basis of the postulated history can be. It sounds like some sort of memory, complex or simple. However, memories are mental states and they cannot be anything else. It seems what behaviorism kicks out of the front door (mental states) is sneaked back in from the back door (history). There is, at least, a tension here, if not a clear contradiction.

The failures of methodological behaviorism are evidenced by the rejection of modern neurosciences and cognitive psychology, of the basic tenets of methodological

behaviorism as inadequate, and to some extent false, in the scope of its assumptions and methodology. I take this fact as self-sufficient and I will not say more about it.

The failure of behaviorism to establish mind-body reduction through definitional bridge principles, semantic reduction, or any other type of reductive method discussed above. It gives rise to the notion that we should look for empirically based bridge laws. This requires the establishment of *psychophysical* laws, which correlate mental and physical properties. This implies that the reduction of psychology to physical theory should be nomological and not definitional. Then, the question is whether there are a sufficient number of these psychophysical laws to act as bridge laws for a successful reduction.

4.5 Eliminative Materialism:

Eleminativism is definitely the most radical version of physicalism. Eleminativism advocates materialism not by identifying mental states to physical states, or by supervenience of mental states on the subvenient physical states. Eleminativism promotes physicalism by denying the very existence of mental states. It is important to realize that, according to this view, only propositional attitudes such as beliefs will be eliminated from our ontology. Sensational and perceptual states are identical to brain states and admissible to our ontology. Eleminativism maintains that desires and beliefs will go the way of aether and phlogiston in our eventual ontology; they are nothing other than illusions of folk psychology.

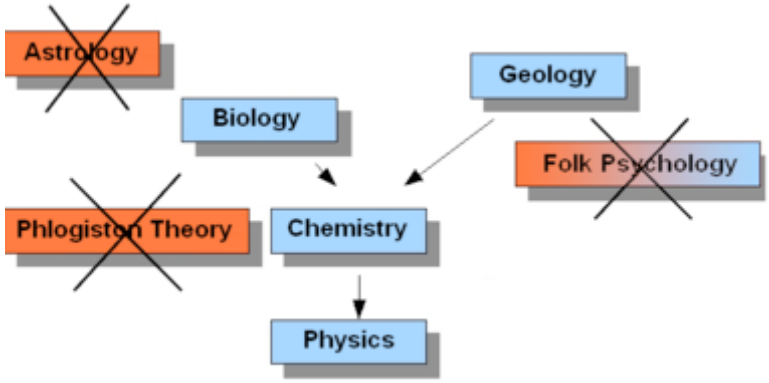

Fig 4.4: Eliminativism (www.medlibrary.org)

Eleminativism also constitutes a prominent attempt at the establishment of psychophysical laws. The most prominent version of eliminative materialism is put forth by

the Churchlands.[108] This theory relies heavily on the recent astounding findings of neurosciences. The point is that in the future our explanation of behavior, which now is based on mentalistic language (folk psychology), will eventually be replaced by neuroscientific terminology. The argument can be summarized as such:

1) The usual ways of thinking about the mental objects, events, and processes yields a theory (folk psychology), by which human behavior is explained and predicted. This includes language such as ascribing beliefs, hopes, desires to describe behavior.
2) Folk psychology provides at best insufficient and at worst defective and nonexistent explanations of human behavior, such as neurosis and unconscious beliefs respectively.
3) Future neuroscience will provide much more accurate and informative explanations of human behavior.
4) Therefore, it is justifiable to assert that folk psychology is a defective theory.
5) Hence, the theoretical entities can be eliminated in favor of neuroscientific entities.
6) Consequently, eliminative materialism is justified.[109]

It seems like eliminative materialist position revolves around two central points. One point focuses on the way we envisage the nature of propositional attitudes such as beliefs and desires. The other point of concern is the developmental history of science.[110]

The origin of our conception of beliefs and desires is rooted in a commonsense theory, which seeks to illuminate the causes, or better purposes, of behavior. This teleological nature of our commonsense explanation is in deep contrast to the explanatory mechanisms of accepted and advanced sciences. For instance, I see a friend getting up from her chair and walking to the refrigerator. She opens the door of the refrigerator. She removes a bottle of water and opens the cap. Lastly, she drinks water from the bottle. In my explanation of her behavior I introduce the purpose of drinking water, or the desire for water, as the cause of her behavior. Through this explanatory scheme we have introduced inner mental causes, such as private beliefs. Moreover, we predict and explain behavior in

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[108] Churchland P. (1984), *Matter and Consciousness*, Cambridge, MIT press.
[109] *Ibid*.
[110] Braddon-Mitchell, *Philosophy of Mind and Cognition*.

terms of these private propositional attitudes. Hence, the private propositional attitudes assume the role of causes of behavior. Eliminativists call this dynamic *folk psychology*.

The history of discovery in science provides the second point of the eleminativism argument. Accordingly, the history of science is replete with concepts, which once played a vital explanatory role in our world paradigm such as phlogiston, aether, ghosts, vital force etc. However, modern science discredited these concepts and replaced them with proper scientific explanation. Hence, any need for reference to these notions was eliminated from our *Weltanschauung*. Eleminativism maintains that the same fate awaits folk psychology.

There are three main objections to this argument. First, even it turns out that folk psychology is a defective theory; it is not sufficient to conclude that things like emotions, cognitions, and volitions are non-existent. All it proves that folk psychology cannot explain mental events, processes, and states adequately. The other problem with the theory is its reliance on futuristic explanation of neuroscience. Neuroscience, like any other science, is occupied with structures, dynamics, and functions. It is not quite clear how the present methodology can explain such things as intentionality, and phenomenology of mental events. The point is that maybe neuroscience will accomplish what Churchland proposes, or maybe it will not. It is not quite sure how Churchland can predict facts about future, based on inductive argumentation. Hence, it seems quite reasonable to work with facts at hand, rather than predict facts.

The last, and in my view the most important, objection is that eliminativist's premise based on the history of scientific discovery is based on a false analogy. Hence, it is fallacious. Churchland compares the case of mental entities to that of ether etc. However, these two cases are not epistemologically analogous. In the case of ether or any of the other targets of eliminativist ridicule, we are dealing with an epistemically symmetrical notion. All the individuals, including scientists, have potentially equal epistemological access to investigation of these concepts. So, once enough information has accumulated and the scientific framework has sufficiently evolved, then all of us can see the falsity of concepts such as vital forces. However, that is not the case about mentality. It is essentially epistemically asymmetrical. There is no level playing field for all observers. The owner of experience is the only party, which has direct access to mental events, states, and processes. The third-person perspective is necessarily dependent on the first-person perspective for

attainment of knowledge about subjective experience. There seems to be a qualitative difference between the two perspectives, which seems to be intractable. Hence, the conclusions about ether, and such concepts, do not apply to mentality. It is upon Churchland to show how science, which is primarily occupied with structure and function, can explain subjectivity or the illusion of subjectivity. To label a problem as an illusion does not absolve the accuser of the burden of proving how that illusion came to existence.

In the final analysis, it is reasonable to assert that eliminativist position is not tenable. Hence, it must be rejected.

4.6 Identity Theories:

We start our discussion of identity theories with the discussion of the meaning of the concept of identity. What does it mean when we claim that X is identical with Y? In some instances, it means that there is an equality in magnitude between X and Y. In some other cases, we mean that X is an instance, or token, falling under the same type, or category, as Y. Furthermore, there are occurrences when we mean proper, or strict, identity. Hence, there are three senses of identity:

1. Strict identity.
2. Token identity.
3. Equal magnitude identity.

Two geometrical figures are identical when the sum of their internal angels is equal. This is the case of identity based on equal magnitude. However, when I say that I drive the same car as you. I don't mean that I drive your car, but our cars are two instances, which fall under the same type or category. This is token identity. Identity based on equal magnitude and token are identity in the loose sense. However, there is a proper sense of identity, which is strict. Strict identity implies numerical identity. This means that strict identity instantiates one thing alone. There are no two examples of it. All we can say, ultimately, is that X is identical with X. Or we can say that X is known as A and X is known as B. Therefore, A is identical to B. Here, we are saying that X is known through its extensions under two different descriptions A and B. In other words, A and B refer to X. let us take an example to clarify this point. Consider the statements:

1) I have visited the Capital city of Austria.

2) I have visited the largest city in Austria.

In this case, both terms 'Capital city of Austria' and 'largest city in Austria' refer to Vienna. Hence, they are identical with each other. Hence, the statements (1) and (2) are identical with each other. In the final analysis, there is only one Vienna known under different descriptions and extensions. One interesting, and important, point is that ignorance of this fact that (1) and (2) both refer to the same concept, Vienna, can lead to the claim that I have visited two different, and independent, locations on my trip. This mistake is exactly the source of the illusion of dualism, since it does not realize that mental concepts are a different description of particular physical concepts and not something independent and distinct, according to identity theorists.

The question is how do we discover identity between two sets of facts. This is an epistemic question. From an epistemological perspective, we come to know identities in two distinct ways:

1. Independent of experience or *a priori*. For example, 2+2=4.
2. Dependent on experience or *a posteriori*. For instance, heat is identical with average kinetic energy of molecules in motion.

Identity of mind and brain, according to this view, is an empirically discovered truth. Hence, it is *a posteriori.* This means that the establishment of this identity requires rigorous scientific research. It cannot be established through logical analysis alone, since it is not *a priori*.

Strict identity is ruled by two principles. The *principle of indiscernibility of identicals* states that if X is identical with Y, then X and Y share all attributes in common. This implies that for any property P, either both X and Y possess P, or they both lack it.[111]

The second governing principle of strict principle is the *Leibniz's Law* or the *principle of identity of indiscernibles*. This tenet maintains that if X and Y have all their attributes in common, then X is identical Y.[112]

The important implication of these two principles is that in order to falsify the identity of X and Y, all we need is to show that one enjoys a property, which the other

[111] Loux, Metaphysics.
[112] Kim, A Companion to Metaphysics.

lacks. In other words, the discovery of a differentiating property P falsifies the identity of X and Y.

As we noted earlier, the central claim of identity theory is that mental entities such as cognitions and emotions are nothing over and above physical entities, such as brain processes. This reductive materialist theory implies that each mental object is *identical,* in a strict sense, with a purely material object, such as a brain or neural entity of some type. This type of theory is usually called *type-type identity theory*; it identifies types of mental objects with types of material objects. Any mental type such as pain, belief, and desire is postulated to be identical with a material type, such as a neural pathway. Another type of identity theory is the *token-token identity theory*. This theory of identity asserts that each instance or token of a mental entity, such as a specific belief or a particular twinge of pain, is identical with an instance, or token, of a mental entity, such as a particular neural activity.

The central position of reductive identity theory postulates mental states as inner causal states of a person.[113] This puts identity theory in direct contrast with behaviorism, since in behaviorism the causal role of mentality was rejected. For a mental state to be a causal state, it means that the state is itself caused; and it is the cause of a further mental state (i.e. physical state) itself. This argument can be formalized as such:

1) The notion of mental state is analyzable in terms of an inner causal state.
2) Therefore, mental states are inner causal states.
3) Neurological states satisfy the causal roles attributed to these inner causal states.
4) Consequently, mental states are identical to neurological states.

At this point, it is important to be clear about the nature of the claims of identity theories. The theory does not claim that talk about mental states has the same intension as the talk about physical states. For example, to say 'X is pain' is not synonymous with the statement 'X's C-fibers are firing'. Hence, the claim that 'pain is identical with C-fiber firing' is not like the statement 'All triangles are three-sided figures with internal angel of 180 degrees'. The difference is that to deny that all triangles are three-sided figures with 180 degrees internal angel is self-contradictory. However, to deny that pains are C-fiber firing is false, but not self-contradictory. The reason is that in the case of triangle 'three-

[113] Braddon-Mitchell, *Philosophy of Mind and Cognition*.

sided figures with 180 degrees internal angel' is the intension of the term, while in the case of pain that is not the case. The 'triangle' statement is an analytic statement, and so necessarily true by definition. The statement is true by the virtue of the terms it contains. However, the case for the 'pain' statement is different.

According to the identity theories, the meaning of mental statements is not the same as the meaning of brain statements. From this, however, one cannot deduce that mental states are not identical to brain states. Let us use an example to illustrate this point: the meaning of the term 'Morning star' is not the same as 'Evening star'. However, this does not mean that 'Morning star' is not identical with the 'Evening star'. In fact, the terms are identical, because the planet named in both instances is Venus. Consequently, the non-synonymy of two terms in an identity does not rule out the truth of the identity assertion. This point becomes further clear when one distinguishes between the intension and extension of a term. The intension of a term is its meaning. For example, the intension of 'Morning star' is 'the star that appears in the morning'. However, 'Morning star' refers to Venus. Hence, Venus is its extension. The same type analysis holds for 'Evening star', where 'the star that appears in the evening' is its intension, while 'Venus' is its extension. It is quite possible, hence, to have a thoroughgoing and independent discourse about the 'Evening star' and 'Morning star', without realizing that one is hypothesizing about the same object, if one does not realize that they refer to the same object, namely Venus.

Identity theory claims that the same conditions holds for the relation between the mental and brain states. Identity theory claims that discourse about the brain events and mental events are discourse about the same set of events, depictable in two different vocabularies. Consequently, it seems that we are in possession of two sets of distinct facts about two different sets of events. However, in truth the two sets of facts relate to a single reality expressible in both mental and material terms.

Before we turn our attention to a closer investigation of the two types of identity theory. We should say a brief word about the benefits of adopting identity as a possible solution to the mind-body problem. There are two potent motivating factors. These two factors are *simplicity* and *parsimony*. In essence, the benefits of identity are the same as reduction. Identity, hence, promotes ontological simplicity and explanatory potential. Smart expresses this notion:

> "Why do I wish to identify sensations with brain processes? Mainly because of Occam's razor…There does seems to be, so far as science is concerned, nothing in the world but increasingly complex arrangements of physical constituents. All except for one place: in consciousness. That is, for a full description of what is going on in a man you would have to mention not only the physical processes in his tissues, glands, nervous system, and so forth, but also his states of consciousness: his visual, auditory, and tactual sensations, his aches and pains. That these should be correlated with brain processes does not help, for to say that they are correlated is to say that they are something "over and above."…So sensations, states of consciousness, do seem the one sort of thing, left outside the physicalist picture, and for various reason I just cannot believe that this can be so. That everything be explicable in terms of physics…except the occurrence of sensations seems to me frankly unbelievable." [114]

The standard formulation of identity theory is in terms of saying that mental events are physical events in the brain:

(1) Every mental event is a physical event.

Hence, there is a talk of *events*. So, the question is what is an event in this context? There seems to be two different ways to understand what an event is, and they are both compatible with identity theory. According to one alternative, an event is a basic concrete particular, similar to the notion of material objects. Furthermore, events, like material objects, have properties and they can be subsumed under different classes and types. For example, a toothache is an event falling under the general category of pain. Furthermore, a particular pain can have the property of being dull, sharp, and so on. According to identity theory, a particular pain event is also a brain event subsumed under the brain event category of C-fiber pathways activity, for example. Consequently, under the view that an event is a concrete particular, a given pain event is subsumed under two event categories, pain and C-fiber pathway activity. In other words, this particular event has the property of being both a pain and a C-fiber pathway activity.

Events can be understood in an alternative way as well. According to this formulation, an event is an instantiation of a property by a concrete particular, an object, at a certain time. This implies that events are time-dependent. Hence, my headache of

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[114] Smart J. J. C., (1991) *Sensations and Brain Processes*, Philosophical Review, 68, 1959, reprinted in *The Nature of Mind*, editor David Rosenthal, Oxford University Press, 1991, pp. 169-170.

yesterday was the instantiation of being in pain was an event, which is a distinct event from having a headache today. These are different events, since they have different temporal characters. So, for two events to be identical, they must be exemplifications of the same attribute by a numerically identical object (strict identity) at the same time.
Mental events, then, are instantiations of mental properties by a material object at a specific time. In a similar manner, a physical event is the exemplification of a physical property at a specific time by a material object. Here, the talk of substance is avoided, but the term *object* cannot be anything other than a substance.

We noted above, that both alternative understandings of the nature of events are compatible with identity theories. Choosing one formulation over the other does not make an interesting difference. In fact, the second formulation blurs the difference between the type-type and token-token theories. So for the sake of clarity, we formulate type theory and token theory in terms of the first formulation of the nature of events.

> (1a) *Type physicalism* states that mental event types are physical event types. Moreover, mental properties are identical with physical properties.
>
> (1b) *Token physicalism* states that all events subsumed under the category of mental event should be also subsumed under the category of physical event. In other words, every event, which has a mental attribute, has also some physical attributes.

At this point, we will discuss each version of identity theory in a bit more detail. It must be noted that for this theories events and states are interchangeable terms.

4.6.1 Type-type identity theory:

As we stated above, the type-type identity theory claims that each type of mental event is identical with a given type of a brain state. Just like, water, as a type of phenomenon, is identical to H_2O, as another type of phenomenon; lightning is identical to pattern of electric discharge; so pain is identical to C-fiber firing. Hence, if there is a one-to-one correlation between being in pain and a particular type of brain state, such as firings of C-fibers, in all the observed cases, then the best explanation is the identity of the mental and brain events.

As we have noted identity theory of any kind, rejects the analytic reduction of mental terms to physical terms. However, it claims that description of mental events always fall under the same type of physical descriptions. In other words, mental terms and physical terms have different intensions, but they have the same extensions. Consequently, any mental state obtains if, and only if, a particular brain state obtains. This is a direct consequence of the claim that mental states are identical with brain states. This is the ontological reduction of two terms.

Ontological reduction is based on the notion that one set of phenomenon, which is seemingly numerically distinct from another set of phenomenon, refers to the same set. As we have seen before, this relationship is expressed in terms of the phrase 'if and only if', a biconditional form. The ambition of the type-theory is that it can furnish regular, orderly, predictable relationships based on the biconditionals. These would be biconditional bridge psychophysical laws, which connect particular mental types with physical types.

The implication of these claims is that not only mental events are identical with physical events, but also mental properties are identical with physical properties. Mental concepts are not synonymous with physical concepts, but the respective properties are one type of property expressible under two different terminologies. This is comparable to the situation in physics with respect to the description of heat in terms of average kinetic energy of molecules in a compound.

The theory claims that each type of mental event is identical with a type of physical event and there are no exceptions to this rule. The central thesis of this theory makes a very strong statement. Particularly, mental states are identified with physical states that are found in humans and higher mammals. This seems to be species- chauvinistic, in that it allows mental processes for those creatures that have a nervous system somewhat like humans and higher mammals. This, however, goes against empirical evidence, which ascribes mental states, such as sensations to other creatures other than humans and higher mammals.[115] Furthermore, imagine that one day humanity will discover other creatures on other planets. It is conceivable that their 'nervous system' is made form other material, such as silicon. It is quite conceivable that these creatures could have mental states as well.

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[115] Hillary Putnam, first, raised this objection in *The Nature of Mental States*, edited by D. Rosenthal, *Materialism and the Mind-Body Problem*, Inglewood Cliffs, Prentice Hall, 1971.

At least, it seems implausible to reject that possibility *a priori*. For these creatures to have mental states, all that is required that they are in states with typical causes and effects associated with the particular mental state in question. Consequently, mental states exhibit *multiple realizability*. This means any entity, regardless of its constitution, can realize a mental state as long as that entity is capable of realizing the states that have the required causes and effects associated with the mental state. Consider the mental state M, which enjoys a set of physical realizers P_1, P_2,…, P_i. For P_i to be a realizer of M, the following propositions must hold:

(3) If P_i, then M.

This means that each physical realizer should be a lawful sufficient condition for the realization of M. Suppose that P_i stands for firing of C-fibers and M for pain. Then, according to (1), every time C-fibers fire, it guarantees the occurrence of pain. However, since P_1, P_2,…, P_i are each different from each other, each constitutes a sufficient condition for M and not a necessary condition for M. In other words, P_1 is sufficient for M, but it is not necessary for it, since M can occur in absence of P_1 such as it is the case in P_2 or any other, P, physical realizer of M. This implies that there are no biconditional laws for any P. This means that no P can be on its own the necessary and sufficient condition for M. Hence, the statement:

(4) P_i if, and only if M

does not obtain. This means that none of the Ps is a nomic extension of M. Furthermore, this implies that the statement:

(5) P_i=M

does not obtain. Hence, reduction of M to P is not possible. The reductionist response to this objection is the *disjunction strategy*. According to this approach, since P_1, P_2,…, P_i are all physical realizers of M, and M is instantiated only if one of the Ps is instantiated, we could take the disjunction of the Ps as the necessary and sufficient condition for M. in other words:

(6) Either P_1, or P_2, or…P_i if, and only if M.

However, we should remember that the list of Ps is an open-ended list. In other words, the set of possible physical realizers of a mental state is potentially infinite. This raises the question of how an open-ended set can act as a necessary and sufficient condition for

anything. It is not clear whether an open-ended disjunctive set is a real property. Furthermore, since the disjunctive set brings potentially diverse group of realizers under the same setting, it is questionable of how a unified scientific theory can be derived from this set. Take the example of intelligence, the physical realizers of intelligence can be a neurobiological circuitry, or silicon based circuitry in a supercomputer, or any other imaginable, functionally equal, physical structure. There seems to be no overarching principle, which is strict enough, to achieve a coherent reductionist theory of intelligence. One cannot appeal to common function as the overarching principle, because, then, we have non-reductive functionalist physicalism and not reductive identity physicalism. Moreover, scientific theorizing needs finitely characterizable entities. An open-ended disjunctive set is the opposite of a finitely charaterizable entity. Hence, an open-ended disjunctive set does not produce a scientific theory. This is precisely the possibility that type-type identity theory must produce. Hence, the type-type theory fails and it must be rejected.

In *The Language of Thought* (1976)[116], Fodor presents a different but related argument against desirability of reductionism. Fodor proposes that the notion of explaining a set of phenomena by another set of lower level phenomena will not yield 'nice' reductions. In fact, they run the danger of being nonsensical. This arises from the lack of any systematical relation between say the concepts of cognition and the concepts of physiology. Let us formalize Fodor's point of view.

Assume that $P_{1x} \rightarrow P_{2y}$ expresses a macro-level principle, which explains a certain behavior or cognition. For instance, P_{1x} is the desire to drink a cold beer. P_{2y}, on the other hand, is the act of walking to the refrigerator, taking a bottle of beer out, and moving it toward the lips. Thus, we can formulate $P_{1x} \rightarrow P_{2y}$ as 'desire to drink beer→getting beer (as described above). According to Fodor, the relevant parameters here are the P states, namely desire and action. However, we know that 'below' P states there are N states, which represent the physiological states and constitute the micro-level phenomena. There are many N states that can correspond to our P_1 state such as: being simply thirsty, being stressed and desiring calming affect of alcohol, being hot and desiring the cooling affect of cold beer, having

[116] Fodor, J., A., (1975), *The Language of Thought*, New York, Crowell.

alcohol craving, etc. N states corresponding to the P_{2y} would also be various depending on your position in the room and the position of the beer in this context. So, the P states can be cashed out in terms of different N states. Fodor's main argument and concern is that when we look at the totality of this situation, it is unlikely that these various underlying N states can hang together in a way that conveys sense or any coherence. Therefore, we could state that P_{1x} corresponds to a set of variable disjunctive N states and P_{2y} is a collection of disjunctive N states. Hence, any attempt to explain a P state in terms of its many possible N states in a lawful manner is incomplete and "reductionism loses its ontological bite, since we can longer say that every event which consists of satisfaction of a P-predicate consists of the satisfaction of an N-predicate"[117]. This means that reductionism produces no advantage. To explain a cognitive phenomenon, we should remain in the realm of cognitive discourse. Any attempt to descend to a 'lower-level' of explanation leads to nonsense. This points out the failure of reductionism, but it seems to be an overreaction to the shortcomings of reductionism as well. We should not treat consciousness, cognition, and mind as phenomena limited to one dimension of the universe isolated and irrelevant to the others. A proper theory would require us to explain the emergence of mind in terms of totality of universe. We seek an integrative theory of mind and not an isolating theory.

4.6.2 Token-token identity theory:

The token theory is formulated in response to the multiple realizability problem of the type theory. To understand the token theory, we need to reiterate the distinction between types and tokens more clearly. This distinction can be explained by the use of an example: water is identical with H_2O. If water is taken to be the type, each individual instance of water such as rainwater, pool-water, etc. are tokens of the water type. The token-token theory states that every token of a type of a mental state is identical with a token with a type of a physical state. However, it does not have to involve the tokens of the same type of the physical state. Furthermore, this implies that type theory entails token theory, but not vice versa. Token theory allows for *multiple realizability*.

[117] *Ibid*., p.22

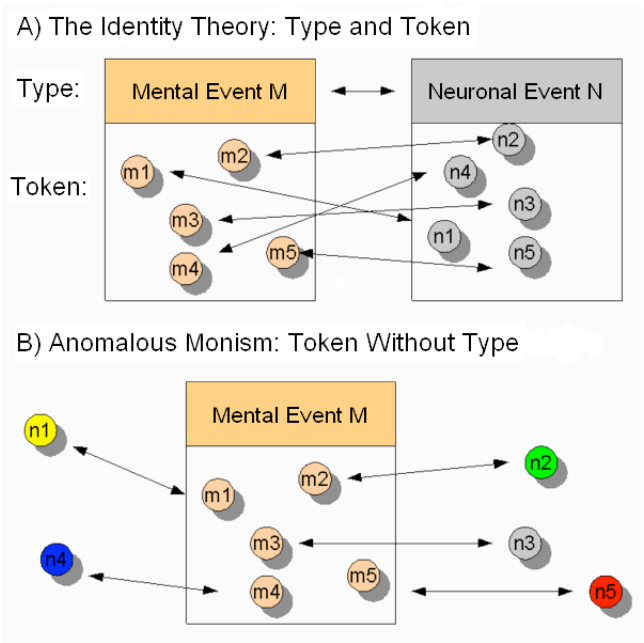

Fig. 4.5: Variety of monism (www.absoluteastronomy.com)

This means that every token of the belief 'I have pain' is identical with some token brain state, such as C-fibers firing. However, this does not imply that it will be identical with a token of the same type of the physical state. For example, 'I have pain' can be identical B-fibers firing in another creature. In fact, the same mental state token can be identical with different physical state tokens on different occasions. Hence, the same mental type can be realized in different instances, or tokens, of that type by different physical tokens. Token theory's ability to allow for variability and multiple realizability can account for parallel processing of mental functions, in which multiple pathways perform the same type of mental task; and in case of damage to one pathway the process is continued such as it is shown in stroke victims.

The token identity theory can be stated in two ways: *narrow* and *wide*.[118] Wide token identity theory states that each mental state token is identical to some *physical* state token or other. Narrow token identity theory asserts that each mental state token is identical to some *neural* state or other. The difference is that wide token identity requires that each mental state token to be identical with some physical state token, not necessarily a neural state. Narrow token theory entails wide token theory, but not vice versa. According to the

[118] Kim, *Philosophy of Mind*.

narrow formulation, a robot cannot have a mental state but organic creatures do. However, according to the wide formulation, even robots can theoretically have mental state.

At this point, let us examine the criticisms of the token theory. Token theory suffers from what identity theory suffers in general. They fail at accounting for the phenomenology, or *qualia,* of mental states; and they cannot account for the intentionality of consciousness.

Qualia of mental states refer to the subjective aspect of how some mental aspect feels to the individual. For example, the deciding criterion whether a sensation is painful to the subject is not whether C-fibers are firing, but whether one 'feels' pain. States of consciousness are known immediately. One does not have to inspect the contents of one's experience to know whether one is pain. The pain is known immediately and distinctly. This is exactly what distinguishes conscious states. Hence, it seems like subjectivity is not reducible to physical state. Furthermore, conscious states enjoy epistemic asymmetry. This implies that conscious states are immediately available to the subject, but they are hidden from the observer. Leibniz makes the same point in his Knowledge argument:

> "Suppose that there be a machine, the structure of which produces thinking, feeling, and perceiving; imagine this machine enlarged, but preserving the same proportions, so that you could enter it as if it were a mill. This being supposed, you might visit inside; but what would you observe there? Nothing but parts, which push and move each other, and never anything that could explain perception." [119]

The point is that knowledge about physical workings of the brain does not reveal anything about consciousness. Hence, consciousness is separate and independent of the body and physical brain.

The second major shortcoming of the identity theory is that it cannot account for the intentionality. One of the most important distinctive qualities is that they are directed to an object. This means that consciousness is always *about* something; or it is consciousness *of* something. However, this '*aboutness*' or '*ofness*' is not reducible to physical states, because physical states are not *about* anything. This argument can be formalized as such:

1) States of consciousness are intentional, in that they are about states of affair external to themselves. In other words, they have representational states.

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[119] Leibniz, G. W., (1965) <u>*Philosophical Papers and Letters*</u>, ed. L. E. Loemker, Chicago University Press, Chicago, p. 749.

2) Physical states are not intentional; they have no representational content.
3) Therefore, states of consciousness cannot be identical with physical states.

A further property of conscious states seems to widen the gap between the two realms even further. The intentional mental states seem to be subject to the rules and restrictions of rationality and normativity. Beliefs, for example, can contradict each other. In cases of conflict between beliefs, the conflict must be reconciled either by a dialectical process, or by rejecting one of the terms of the discourse. However, the constraints to physical states are the laws of physics, chemistry, and biology. Hence, it is apparent that the two realms are subject to different restriction. This points to the improbability, or even impossibility, of psychophysical bridge laws. Consequently, the whole project of the identity theories is undermined.[120]

We mentioned that token theories suffer from the general problems of the identity theories. However, token theory suffers from a specific problem of its own. The problem seems to be that there seems to be no systematic relationship between the type of mental event a token instantiates and the physical type it exemplified. It seem like the token theory is guilty of being too liberal in its relationships, while the type theory is too restrictive. There seems to be no systematic way to describe why particular tokens co-exemplify a mental types and physical types. The existence of mental types seems to be independent and irrelevant to the existence physical types. Accordingly, the two types co-exist as a matter of brute fact. Now, this would be fine for any type of dualism, but from a materialist standpoint, it is unacceptable.

At this point, it seems that both type and token theories fail. Type theory falls to the multiple realizability objection, while the token theory fails because of its inability to formulate systematic, orderly, and predictive relationships between mental and physical events. Reductive materialism, in general, seems to have failed, because it cannot account for the intentionality and the subjectivity of mental states. It seems, therefore, reasonable to proclaim reductive materialism as unobtainable. Hence, it must be rejected. However, the case is not lost for token theory. The point is that if one could formulate token relationships

[120]Davidson D., (1994) The *Blackwell Companion to the Philosophy of Mind*, in S. Guttenplan ed. Oxford, Blackwell publishing, p. 232.

in a way that it could furnish an orderly relationship between mental and physical events, then token theory could be a promising candidate.

The attempt to make token relationships more systematic is made through the principle of supervenience. This principle states that mental events depend for their existence on physical events in a way that there can be no change in mental events unless there is a change in underlying physical events. This relationship does not hold conversely, because tokens of different types of physical events can exemplify tokens of the same type of mental event. This relationship expresses the multiple realizability of mental states. Supervenience seems to bring mental and physical events in a closer systematic relationship. It is to the analysis of this relationship that we turn our attention in the next chapter. However, functionalism is traditionally considered as the solution to the problems of the identity theory and reductive materialism in general. We now turn to a short discussion of functionalism and its shortcomings. However, the problems with non-reductive physicalism, which includes functionalism as well, will be discussed in the next chapter.

4.7 Functionalism: A way out?

As we can infer from the previous discussion reductive materialism portrays mental states in terms of causal relations. Accordingly, certain causes and effects characterize a mental state. To be in certain mental states is nothing above and beyond being in a state, which is typified by certain causes and corresponding effects.

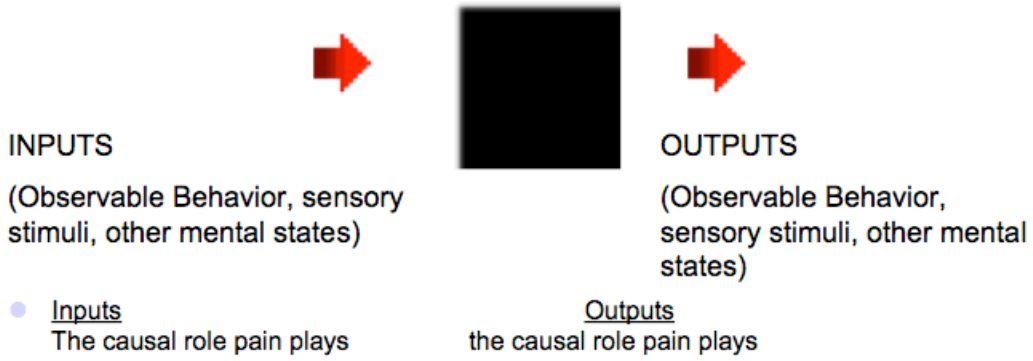

Fig. 4.6: Functionalism (www. (www.edtechguy.wordpress.com)

Functionalism concurs with this fundamental intuition of reductive materialism. So, for functionalists being in a certain mental state is also being in a state that is caused by certain parameters and has certain effects as consequence. Such effects can be certain behaviors or they can be further mental states. This causal-effect relationship can be formulated in terms of an input-output relationship. According to Functionalism, hence, what makes something a thought, desire, pain (or any other type of mental state) does not depend on its internal constitution, but solely on its function, or the role it plays, in the cognitive system of which it is a part. We could formulate this thought by stating that what makes a mental kind is a functional-causal kind. More precisely, functionalist theories take the identity of a mental state to be determined by its causal relations to sensory stimulations, other mental states, and behavior. Ned Block states:

> "metaphysical functionalists characterize mental states in terms of their causal roles, particularly, in terms of their causal relations to sensory simulation, behavioral outputs, and other mental states…A…functionalist theory of pain might characterize pain in parts in terms of its tendency to be caused by tissue damage, by its tendency to cause the desire to be rid of it, and by its tendency to produce actions designed to separate the damage part of the body from what is thought to cause the damage."[121]

For instance, as we can see functionalist theory typifies pain as a state that tends to be caused by bodily injury, to produce the belief that something is wrong with the body—a tissue damage detector—and the desire to leave that state and, in the absence of any stronger, conflicting desires, to cause wincing or moaning. According to this theory, all and only creatures with internal states that meet these conditions, or play these roles, are capable of being in pain.

Suppose that, in humans, there is some distinctive kind of neural activity (C-fiber stimulation, for example) that meets these conditions. If so, then according to this functionalist theory, humans can be in pain simply by undergoing C-fiber stimulation. But the theory permits creatures with very different physical constitutions to have mental states as well: if there are silicon-based states of hypothetical Martians or inorganic states of hypothetical androids that also meet these conditions, then these creatures, too, can be in

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[121] Block, N., (1982) *Readings in Philosophy of Psychology*, Harvard University of Press, Cambridge MA, p. 172.
Putnam, H., (1975) *Mind, Language and Reality*, Cambridge.

pain. As functionalists often put it, pain can be realized by different types of physical states in different kinds of creatures, or multiply realized.

The driving intuition behind functionalism and behaviorism before was Wittgenstein metaphor of *Beetle in the box.*[122] Let us recap by imagining that each one of us is in the possession of a little box. In each box, there is something. However, only the owner of the box has access to his, or her, box. No one can look into another person's box. Now, each of us claims that he, or she, has a Beetle in their box. However, the problem is that there is no way for anyone of us to know that others mean the same thing by claiming to have a Beetle. It is logically conceivable that we all posses various objects that we call Beetle. What does this state about the concept of Beetle at all? It implies that the concept of Beetle is inane, because we cannot know what others mean by Beetle, or what does it really refer to. Wittgenstein maintains that, in this case, the idea of Beetle *cancels out* and it becomes meaningless. It can play no role in meaningful discourse.

Wittgenstein writes further: "An 'inner process' stands in need of outward criteria" (section 580). In other words, in order to be justified in ascribing a "mental state" to some entity, there must be some true claims about the observable behavior of that entity that entail that the entity has the mental state in question. If no true claims about the observable behavior of the entity can play any role in the justification of the ascription of the mental state in question to the entity, then there are no grounds for attributing that kind of mental state to the entity.

We can see that from the perspective of theoretical structure functionalism is very much akin to reductive materialism and behaviorism. For both functionalism and behaviorism is the main criteria for presence of mentality is sensory input (stimulus) and behavioral output (response). However, functionalism distinguishes itself by allowing for the possibility that many different beings can realize the input-output relationships, which exemplify mental states. In other words, functionalism allows for multiple realizability that was the Achilles' heels of reductive materialism. In fact, organic brains and nervous systems are not the necessary condition for the presence of mentality. What is required is the presence of the relevant input-output relationship regardless the matter that manifests

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[122] Wittgenstein L., (1953) *Philosophical Investigation*, translated by G. E. M Anscombe, Oxford Blackwell, §293.

such relationships. It can be DNA based or it can be silicon based or any other material stuff. This allows for the possibility of computers or robots to be conscious and have mental states. This makes functionalism irreconcilable with behaviorism and type-type identity theory. In fact, functionalism is compatible with Cartesian dualism. A soul is confined within a physical body. So it is physically manifested and the soul; or mind, can be understood as a functional software housed in this physical shell.

Another point of difference between behaviorism and functionalism is their respective position toward the reality of internal mental states. Behaviorism approaches internal states as predispositions to behavior or actually behavior itself. For functionalists, on the other hand, internal states are real causes of behavior. Thus, functionalists are realists with respect to internal states. While, behaviorists approach internal states from the standpoint of instrumentalism. The instrumentalist-behaviorist perspective treats internal states in terms of conditional propositions: if X, then Y. 'P is in pain' is defined as ' if P steps on a needle, then P winces and cries'. On the hand, 'P is in pain' means that P is in certain mental state, which causes wincing and moaning. Moreover, this mental state is brought forth by external stimuli or internal stimuli such as other mental states. So, we can summarize by that for behaviorists internal states are nothing other than stimulus (input) and response (output) correlations. According to functionalists, internal states are actual and real causes of behavior. This means that internal states enjoy a real ontological status.

Another important point that emerges from the above discussion is that according functionalism mental states can be causes of behavior or other internal states. This allows for a chain of mental states leading to behavior, a causal network made of internal states. Behaviorism does not allow for this internal chain. Stimulus and response may be only physically observable and measurable.

However, the question is that what kind of entities satisfy the criteria of functional-causal kind to be considered to have a mind. A typical answer to this question is that the prototype of a mind can be found in Turing machines.[123] A Turing machine is an abstract computational construct capable to perform calculation of input data and production of output behavior. This computation is performed according to certain algorithms. The machine receives the input; it translates the input into certain symbols, performs certain

[123] Braddon-Mitchell, *Philosophy of Mind and Cognition*.

symbolic manipulations according to its given algorithm, translates the result into expected output form, and finally produces the results or behavior. We can see that, at the core, a Turing machine is symbolic manipulator, a syntactic machine.

In the traditional sense, a Turing machine is a deterministic automaton. This means that knowledge of input and the algorithm makes precise prediction of the outcome possible. Output is determined by input and internal workings of the machine. However, we could modify this to fit the workings of the real minds by introducing the notion of Turing machines as probabilistic automaton. This means that minds are indeterministic meaning the input and the algorithm make an outcome probable and not determined. This does not mean that probabilistic automata are chaotic in nature. Their behavior is legislated by certain rules of action. According to functionalism, mind is a probabilistic Turing machine or automaton. In fact, an organism has a mind just in case it has a Turing machine of a certain complexity level and certain functional capability. This allows for multiple realizability of a Turing machine or a mind.

The major objections to functionalism, of any type, revolve around two major points. The first concern is whether any functional theory can capture the representational content of intentional states. This is the question of intentionality, which states that conscious states are necessarily *about* something. Hence, they are intentional. It is not clear how a functional state can be about something. This type of objection is exemplified by the China Room argument by John Searle, as we will discuss next chapter.

The other topic of deep concern is that no such characterizations can capture the qualitative character, or “qualia”, of experiential states such as perceptions, emotions, and bodily sensations, since they would leave out certain of their essential properties, namely, “what it's like” (Nagel, 1975) to have them. Ned Block’s argument illustrates this objection further, which will be discussed in the following sections.

Chapter Five

Non-reductive Materialism

Up to this point, we have discussed a variety of theories about the nature of consciousness and its relationship to the body. Substance dualism claimed that they are two distinct, and independent, realms of mental and material. However, substance dualism could not account for the relationship between the mind and the body in such a way that could explain experience. Mentalism denied the idea of material substance; and it claimed that all there is mental in nature. Mentalism turned untenable, because it logically culminated in solipsism. Furthermore, mentalism cannot account for the problem of continuity. In other words, it cannot do justice to our experience and observation. Reductive materialism took the opposite approach of either denying the existence of the mental realm altogether, or reducing it to nothing above and over the physical. Reductive materialism failed, because it could not account for the intentionality and qualia of mental states. Furthermore, the whole reductive project seemed to fail, because of the multiple realizability problem. The failure of the reductive materialist theory is a direct effect of it taking no interest in consciousness in particular. To reductive materialism, consciousness is just another mental state. It seems like we need a theory that finds a middle path between reductive materialism and dualism, provided that one is convinced of the validity of materialism. The compromise must be such that one can assert materialism, while taking consciousness seriously.

This compromise is offered in the form of non-reductive materialism or property dualism. This theory is non-reductive, because it does not assert that mental properties are identical with physical properties. Mental properties are of a different kind from physical properties, but they are ontologically dependent on them. In other words, there is only one type of substance, the material, while the material substance can have two kinds of properties: mental and material. The relationship between the material substance and their mental properties is described through the principle of supervenience. However, we should clarify some key concepts first.

We can give a more clear account of the statements of supervenience theory by discussing the notion of 'possible worlds' and some relevant concepts.[124] We can think of

[124] Kim, *A Companion to Metaphysics*.

the notion of 'possible worlds' as a tool to perform effective thought experiments. In this scheme, one possible world represents how things actually are in every infinitesimal detail. This is the actual world. The actual world is a collection of all the facts about the world past, present, and how things might be in the future. However, the facts of the actual world are mostly contingent. This means that they could have been different, if the constellation of facts in the initial condition were different. The other possible worlds represent the different combination of how things would have been, all the different possibilities with their assigned probabilities.

The notion of 'possible worlds' is not some strange, unintuitive product of philosophical discourse. It is rooted in common sense and intuition of everyday problem solving skills. It is used daily under the titles of 'hypotheticals', 'possible scenarios', 'various options', 'how things could have been', and so on.[125] In fact, any rational decision-making process is based on a survey of different possibilities and their allotted probability values and the priorities of the individual making the decision within the context of the realm of possibilities. The philosophical concept of 'possible worlds' is an extension of the same process. This concept enables us to depict a complete way things are, and might be.

In any possible world, all the details are presented and determined in one way or another. Now, the question is how do we decide the constitution of details of a possible world? How do we decide that a particular fact belongs to one world as opposed to another? This goal is achieved through two distinct considerations.

1. Logical or metaphysical possibility.
2. Nomological possibility.

It seems to be a matter of logical impossibility that in no possible world 'one plus one is three', or the sum of the internal angles of a triangle is 180 degrees. So, the scope of our imagination and conceivability is limited by logical possibility of combination of facts.

The second determining factor of what is allowed and conceivable is not metaphysical possibility, but physical possibility. In other words, what the laws of nature allow is also the arbiter of assignment of facts. For example, the speed of light corresponds to some constant value in our universe. Nothing in our universe can travel faster than 299,792.458 kilometers per second. This value limits what we can imagine about our

[125] Kim, *Philosophy of Mind*.

universe lawfully. However, there is no logical reason that this value could have been different. This constant is a contingent fact about our universe. It could have been different, if the initial conditions were different. A different constant for speed of light is inconsistent with the laws of nature. Therefore, it is nomologically impossible.

The nomological possibility, hence, presents a subset and a narrower sense of logical possibility. So, all that is nomologically possible is also logically possible, but some things are logically possible but nomologically impossible, such as the example of a different constant for the speed of light.

Another distinction worthy of our attention and relevant to our concern is the difference between *necessity* and *contingency*. The concept of necessity and contingency relates to the truth of sentences. Generally, there are two types of sentences. Those that have a truth-value and those that lack truth- value. Truth-value refers to the fact that a sentence can be either true or false. The sentences, which have truth-value, are called statements or propositions. This encompasses most of sentences we utter. Questions and commands comprise the class of sentences, which have no truth-value. Is does not make much sense to ask whether a question is true or false. A question is a kind of thing that seeks truth or falsehood.

The question whether a statement is true or false can be answered by saying that there is a set of possible worlds, where a given statement is true. The set of possible worlds corresponds to all the conditions under which the proposition's capacity for truth is actualized. Hence, a proposition is true, if it is true in the actual world. A statement is *necessarily* true, if it is true under all conditions, or all possible worlds. A proposition is *contingently* true, if it is true under some conditions and false under others. Alternatively, it is true in some possible worlds and false in some others.

We need to discuss one more concept before we engage our topic properly. That is the notion of *entailment* or *implication*. One fact A entails another fact B if, and only if it is necessary that if A is true, then B is true. We can express this in terms of 'possible worlds'. A entails B if, and only if in every logical possible world where A is true, is also a world where B is true.

One can use the notion of 'possible worlds' to talk about properties as well. An *accidental* property is an attribute that an individual has in the actual world and not in other

possible worlds. An *essential* property is an attribute that an individual has in all possible worlds. For example, the property of having mass is an essential property of all physical objects. However, being poor is my accidental property. I could have been rich in other possible worlds. (However, somehow, that is not much of a consolation, when the bills arrive at the beginning of the month.)

At this point, we have enough conceptual tools to begin our discussion of the principle of supervenience properly.

5.1 The Principle of Supervenience:

Although we alluded earlier to the concept of supervenience, it is important to discuss it in more detail. Supervenience is a relationship between two sets of facts. According to this concept, one group of facts can fully determine another set of facts. The materialist position states that the higher-level facts (supervenient-facts), or mental facts, in the universe supervene on the lower-level facts (subvenient-facts), or the physical facts. Once the physical facts are laid out, that is all there is to explain the universe. No further facts are necessary to describe any phenomenon in the universe. These subvenient-facts are the fundamental entities in physics; it is their spatio-temporal distribution in the universe. It is also a matter of stipulation to include the laws of physics as physical facts. Therefore, the supervenience principle declares that: higher-level facts supervene on the lower-level facts, if no two possible situations are identical with respect to their lower-level properties while differing in their higher-level properties. For example, the facts about biology supervene on the facts about physics insofar as two possible worlds that are physically indiscernible, there are also biologically indiscernible.

Supervenience can be applied locally and globally. *Local* supervenience concerns individuals and it can be defined as: the lower-property of an individual entails the higher-level properties of that individual. Local supervenience is concerned with differences *within* worlds. This is exactly the limitation of local supervenience. It does not give us much information about the truth-value of a statement. Let us remind ourselves, truth of a proposition is determined by applying the standards of truth to a statement *between* the possible worlds. All that local supervenience states is that individuals that are alike in a certain respect physically are exactly alike in their psychological states. Global

supervenience, in contrast, is concerned with facts between the worlds. This fact makes global supervenience instrumental in determining truth-value. Global supervenience states that any two possible worlds that are physical duplicates of each other are also psychological duplicates. In our discussion, it is global supervenience that is relevant. Accordingly, all the higher-level facts in the world globally supervene on the physical facts. This means that once all the physical facts are known, nothing further is needed to explain the higher-level facts as long as the higher concepts are provided. The physical facts entail all other facts.

Another important distinction is between *logical* and *natural* (also called *nomic*) supervenience.[126] Higher-level facts supervene on the lower-level facts if no two logically possible situations are identical with respect to their lower-level facts but distinct with respect to their higher-level facts. The logical possibility corresponds to the conceivability of a situation. Therefore, logical supervenience needs not to be constrained by the natural laws. It is solely constrained by the criterion of rationality, the principle of non-contradiction. It is logical to conceive of a world, in which dogs can fly. However, it is logically impossible to conceive of square circles, or married bachelors. Logical supervenience is defined in terms of logically possible worlds and not deducibility in any system of formal logic.[127] Biological facts supervene on the physical facts. This means that once the physical facts are established in their entirety, the biological facts are also established in their entirety. No further work is necessary. In all the worlds, which are physically indiscernible from this world, there is an identical copy of me who is also writing a work on consciousness. Descartes' evil demon, for example, would have complete knowledge of all higher facts once he knows the distribution of fundamental elements and he has the relevant concepts. Therefore, in a logically supervenient relationship all the higher-facts are entailed by the lower-facts.

Natural, or nomic, supervenience is the narrower type of supervenience. Natural supervenience establishes a structural and functional relationship between two sets of facts in the natural world. This relationship obeys the governing laws of the natural world. High-level properties naturally supervene on the physical properties if any two naturally possible

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[126] Braddon-Mitchell, *Philosophy of Mind and Cognition*.
[127] Chalmers, D., (1996) *The Conscious Mind: In Search of a Fundamental Theory*, Oxford Univ. Press, pp. 32-42.

situations with the same physical properties have the same high-level properties. In other words, higher facts supervene nominally on lower facts if, and only if, any world (with our laws) that is lower facts identical is also higher facts identical. Therefore, it is naturally impossible to conceive of a world, which has no gravity. However, it is logically possible to conceive of such a world. Natural possibilities are much more stringent than logical possibilities. Natural possibility has to obey natural laws. The difference between logical and natural supervenience is a crucial one.

According to the logical type, once all the physical facts are established the higher-level facts are established as well. No further work is needed, to establish the high-level facts. In a merely naturally supervenient relationship, once the physical facts are established more work is needed to establish the higher-level facts. More has to be done to establish the relevant laws between the physical properties and higher-level properties. Physical facts do not determine higher-level facts fully. Laws have to be established to regulate relationship.

The implications of both logical and natural supervenience are immense for materialism. These ramifications are ontological: that is for the matter of what there is in the world. Logical supervenience implies that once the physical facts are known, then the higher-level facts are also known. The explanations for the higher-level facts are re-descriptions of the physical facts. The higher-level facts are different facts, but they are not further facts about the world. With respect to natural supervenience, the situation is different. Evolution provides a prime example. The relationship between the lower-level facts and higher-level facts is established through natural laws that are further facts. Physically identical worlds are not necessarily naturally identical. It is naturally possible to conceive a world in which dinosaurs evolved to be intelligent creatures instead of mammals. This is not necessarily logical supervenience.

Materialism claims that all facts in the universe are *logically* and *globally* supervenient on the physical. Materialism is true if the physical facts logically entail all other facts. If an exception can be found to this claim, then materialism is false. Notice the case for or against materialism deals with logical possibilities and not natural possibility. This is *a priori* knowledge, independent of *a posteriori* considerations.

Here, we have to note that the entailment claim holds for logical supervenience. Nomological supervenience asserts that the lower facts determine the higher-level facts.

Hence, a nomological supervenience would accept the supervenience claim, but not the assertion that the lower facts entail the higher facts. Consequently, the difficulties facing logical and nomological supervenience are somewhat different. Logical supervenience is concerned with logical conceivability, while nomological supervenience is concerned with violation of laws of nature and causal closedness of the physical world. In our analysis, we will consider logical supervenience first. We will turn to nomological supervenience later.

At this point, we can summarize supervenient relationships in terms of three main properties:[128]

1) *Irreducibility*: supervenient facts are not either analytically (through definition), or ontologically reducible to subvenient facts. In this case, mental properties (supervenient properties) are neither analytically, nor ontologically reducible to the subvenient, physical facts.
2) *Co-variation*: this implies that there can be changes in the supervenient properties, if and only if, there are relating changes in the subvenient phenomena. However, a change in the subvenient phenomena does not necessarily entail a change in the supervenient property. This implies that phenomena cannot differ in their supervenient qualities if there is no distinction in their subvenient characteristics. Two entities that are indiscernible in their subvenient features must be indiscernible in their supervenient qualities. This means that two physically identical must mentally identical as well. This accounts for multiple realizability.
3) *Dependence*: this implies that supervenient qualities are dependent for their existence on subvenient phenomena. This is, however, an asymmetric relationship; in that, subvenient phenomena exist independently of supervenient phenomena. In the context of our discussion, this means that mental properties emerge and depend for their existence on neurological entities, but not vice versa.

The question is whether consciousness is logically supervenient on the physical. The answer to this question determines the fate of materialism.

[128] Maslin, *Philosophy of Mind.*

5.2 Is Consciousness Supervenient on the Physical?

The main concern of this question is whether qualia can be explained through the principle of supervenience. It seems reasonable to accept that some functions associated with consciousness have physical basis. Here we have to distinguish between *phenomenal* consciousness and *physical* consciousness, or awareness. Awareness supervenes on the physical; hence, it is functionally analyzable and reductively explainable. Awareness is a measurable and observable mental activity, and so it lends itself to third person analysis. The function of awareness is to access information in different contexts. This means that awareness is manifested in different functions. Awakeness is one of the functions of awareness. Awakeness is a physical phenomenon and it is functionally analyzable. It has been found that clusters of neurons in the brain stem, known as the *reticular formation*, are crucial to the function of arousal and awakeness. Dopamine and epinephrine are the neurotransmitters that play the pivotal role. Fluctuations in the level of these chemicals in *substantia nigra* and the *pons formation* lead to a continuum of arousal: from completely alert to coma.

Introspection is another function associated with awareness. It is of absolute evolutionary necessity that an organism is able to monitor its own internal states, psychological and physiological. This self-monitoring will lead to constant adjustments of strategy in the environment. Constant evaluation of the internal states will lead to a higher evolutionary fitness.

Reportability is another function associated with awareness. It will lead to better communication and cooperation within a social structure. It will also lead to better sharing of information between the members of the group. Thus, it increases the fitness of the group as a whole. Reportability is the function that makes awareness empirically available to an observable.

Self-awareness is another function associated with awareness. It gives the individual a sense of individuality. Self-awareness provides the critical ability to evaluate one's position with respect to future projects and experiences. It provides the centrality to one's life. It is important functionally and evolutionary since the individual will struggle to be a participant in the future gene pool. Self-awareness has evolved with the evolution of complex social structures.

Awareness is also associated with voluntary control. This is another measurable function, whose evolutionary and functional importance is obvious. Awareness is also synonymously used with knowledge. This is a linguistic evolution. It is a physically entailed activity, since language can be functionally analyzed within a physically causal system.

All these functions are logically supervenient on the physical and functionally analyzable. However, there is an element, which seems to be not physically reducible. That element is *qualia*. Phenomenology of an experience is not functionally analyzable; hence, it seems that not logically supervenient on the physical. It is perfectly coherent from an evolutionary standpoint to have all the aforementioned function without any phenomenology. The question is: why should any organism have a phenomenological experience of its mental life? It is logically and naturally conceivable to have awareness without consciousness. A mental state is conscious if there is something it is like to be in that mental state. Consciousness is that qualitative feel, or qualia, of any mental state. Qualia are superfluous from a functional standpoint. However, the qualia is present in most mental states, or it could be proposed that it is present in all mental states but to a degree. Qualia are not present in most autonomic functions of the nervous system. For example, qualia are not present in blood flow in the circulatory system. This also proves that phenomenology does not play functional role. Pain is another instance that can be described functionally in a very efficient manner using token-functionalism. However, pain has also phenomenology, a sense of subjectivism, which is ineffable but real nevertheless. Any attempt to describe pain from functional standpoint is incomplete, and it will face the multiple realizability problem. A complete description of pain is physical as well as phenomenological.

From the evolutionary and physical standpoint, qualia are not necessary. Any other functional phenomenon such as altered state of vision, a ring in the auditory process; change in the color of the skin would have accomplished the job (with respect to pain) without the qualia and its agony.

Thomas Nagel, in his essay "what it is like to be a bat?"[129] forcefully brings this issue to the forefront. Nagel proposes that the issue of subjectivity is impenetrable. Nagel

[129] Nagel T., (1974) What is It like to Be a Bat?. *Philosophical Review 83.4*, pp. 435-450, 438, 439.

sets out his argument in several steps. First, he says, "no matter how the form may vary, the fact that an organism has conscious experience at all means, basically that there is something it is like to be that organism". An "organism has conscious mental states if and only if there is something it is like to be that organism- something it is like for that organism…. We may call this subjective character of experience". Secondly, he argues that: "if physicalism is to be defended, the phenomenological features must themselves be given a physical account". Thirdly, he argues that it is not possible: "but when we examine their subjective character it seems that such a result is impossible. The reason is that every subjective phenomenon is essentially connected with a single point of view, and it seems inevitable that an objective, physical theory will abandon the point of view". The quale of experience "is fully comprehensible from only one point of view". Therefore, "any shift to greater objectivity- that is less attachment to a specific viewpoint- does not take us nearer to the real nature of the phenomenon: it takes us farther away from it". Further, he argues, "this bears directly on the mind-body problem. For if the facts of experience- facts about what it is like for the experiencing organism are accessible only from one point of view, then it is a mystery how the true character of experience could be revealed in the physical operation of that organism". He proposes that this can have detrimental consequences for materialism: "physicalism is a position we can not understand because we do not at present have any conception of how of how it might be true".

In his book, *Consciousness Reconsidered*, Owen Flanagan admits that: "consciousness did not have to evolve. It is conceivable that evolutionary processes could have worked to build creatures as efficient and intelligent as we are, even more efficient and intelligent, without those creatures being subjects of experience. Consciousness is not essential to highly evolved intelligent life. This claim is true and important".[130] It can be argued, therefore, that phenomenal consciousness is neither logically, nor naturally supervenient on the physical.

Phenomenal consciousness seems to be a further fact about the universe that is not entailed by the physical facts. Even when the entire question about the physical world is answered, one question remains unanswered: why is there a subjective experience or phenomenal consciousness? If this is true, this puts consciousness beyond the physical

[130] Flanagan, O., (1992) *Consciousness Reconsidered*, MIT press, Cambridge Mass, p. 60.

facts. These statements are, however, in need of more qualification and argumentation. One can take multiple approaches. One can think of logical conceivability and possibility. Another approach is to use epistemological argumentation. In addition, the last approach presented here is direct functional analysis or lack thereof in the case consciousness. In any case, once it is proved that consciousness is not logically supervenient, then materialism is proven false. Jackson, Chalmers, present arguments in addition to Nagel that are worthy of serious consideration.[131]

5.2.1 Argument of logical possibility of a zombie world:[132]

Zombie world is microphysically indiscernible from ours, but it contains no conscious creatures. Zombies are creatures that are physically and psychologically (functionally) identical to human beings but they lack consciousness. They lack qualia, the subjective experience. For example, my zombie twin is physically and psychologically identical with me in every detail, but he lacks my subjective sense and phenomenology. My zombie twin does not have the subjective feel of being him. However, he functions as well as I do, physically and psychologically. In his world there is nothing like being a zombie. My zombie twin is aware of his environment. He is capable of introspection. He can report his mental states. He is self-aware; he can distinguish himself from his surrounding. He is as alert as I can be. However, none of theses functions is accompanied with a subjective experience.

The possibility of such a creature and such a world is not only logically possible, but it is also naturally possible. According to Chalmers, evolution and natural selection cannot distinguish between my zombie twin and me. Natural selection selects for adaptive functions and not qualia. In the natural world, consciousness is usually accompanied by awareness, but the latter does not have to be accompanied by the former and this is the crucial point.

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[131] Kim, *Philosophy of Mind*.
[132] Chalmers, *Consciousness*, pp. 131-33.

5.2.2 China Brain:

Another way of coming to this conclusion is through nonstandard realization of zombie's functional organization. The China brain, by Ned Block, provides an example.[133] The people of China organize themselves in a causally and functionally isomorphic manner, with every single person acting as a neuron with proper connections. Now, the function of the Chinese population is to simulate a program. This program imitates the workings of human brain at the neuron-to-neuron level. Since, neurons are essentially input-output devices. This program allows for the simulation of an input-output system. Accordingly, the members of the population are provided with two-way communication devices. So, essentially one person will act as a neuron in this scheme.

The kind of communication devices they are equipped with tells them the number of other individuals who call in. Furthermore, the individuals are taught that certain combination of incoming calls will prompt them to take up certain actions, namely contacting other members of the population. So, when individual X receives contacts from individuals A, B, and C in a specific spatial and temporal order, then individual X will, in turn, contact individual Y. The program will provide precise and clear instruction about the workings of this system to each individual within the population. The original signal, which will start up this process, comes from outside of China. This fact allows this system to imitate the environmental inputs to the brain. The output will also culminate in some observable and verifiable action of Chinese nation. This is akin to the behavior of the individual after receiving an input from the environment, processing that input, and finally behaving in a certain way.

It is certainly granted that the China brain presents an inferior analogy system to organic brains in both the quantity and quality of its connections. However, it seems fair to ask the questions whether China brain, as a whole, can have phenomenal consciousness or qualia. Is there something like being China? One could certainly argue successfully that such system would enjoy empirical consciousness and awareness. However, it does not seem like it would have qualia. Hence, it is logical to postulate that such system lacks phenomenal consciousness. In fact, it would be dubious if one insisted that such system had

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[133] Block, N., (1978) Troubles With Functionalism, *Minnesota Studies in Philosophy of Science 9*, pp. 261-325, 278-280.

qualia. This is exactly the importance of this analogy. Whether in the natural world such system would be accompanied with, consciousness is an empirical matter at best. The fact that this system does not have to be phenomenally conscious seems to prove the point that phenomenal consciousness is not logically supervenient on the physical. One might argue that China brain does not present the full complexity of the brains connections. However, one has to prove that extra number of connections would allow qualia.

One might argue that biochemistry and molecular biology has to be taken in account. This argument is in dire need of qualification as well. If one insists that it is biochemistry and molecular biology that are responsible for conscious experience, then one has automatically committed to the position that consciousness is only possible for DNA based life forms. Moreover, consciousness cannot arise from silicon-based life forms. This is a logically and naturally implausible position to take. Hence, it can be concluded: it is logically possible to have world, which is physically identical to the actual world, but it (the counterfactual world) is devoid of conscious creatures. Therefore, consciousness seems to be not logically supervenient on the physical. Consciousness seems to be a further fact.

5.2.3 Chinese Room argument:

John Searle's Chinese room thought experiment presents another avenue in our investigation of the question whether phenomenal consciousness supervenes on the physical brain events.[134] Imagine the case of an English speaking person, who does not speak, or understands, Chinese. This person is locked in a room, which has an in-chute and an out-chute. He also possesses a book containing instructions in English with respect to operation of Chinese characters. Our individual receives occasionally questions and stories about those questions through the in-chute. These questions and stories are in Chinese. Our individual uses the instruction book to find the proper answers to questions. Moreover, he copies the Chinese symbols corresponding to the answer on a piece of paper and places the paper in out-chute. It is important to note that our individual does not understand the meaning of the questions and the stories, because his instruction book is not a dictionary. The instruction book simply gives the individual the proper formula of what to do when

[134] Searle, J., (1991) *Minds, Brains, and Programs*, reprinted *In The Nature of Mind*, editor David M. Rosenthal, Oxford University Press, New York.

he/she sees a specific Chinese symbol or strings of symbols. Hence, the individual's action is purely mechanical, syntactical, and in no way semantical. Our individual simply manipulates Chinese symbols based on the English instructions provided by the manual.

Form the perspective of somebody outside of the room, who provides the questions and stories to our individual, it would seem that this system understands Chinese and it is an intelligent system. From the third person perspective, we are dealing with an intelligently communicating system, since for all of our intelligible questions we receive intelligent answers. However, the story seems quite different from the first-person perspective of the individual inside the room. In fact, it seems quite wrong to infer that the individual understands Chinese. This point to a very important point that seemingly intelligible behavior does not prove the existence of an intelligence behind the façade. We can apply the same conclusion to qualia. Hence, seemingly purposeful and planned behavior does not automatically entail the presence of phenomenal consciousness behind the behavior. This seems to allude to the fact that physicality does not necessarily entail qualia. Consequently, qualia constitute an extra fact about the world, which is not entailed by physical entities.

Fig 5.1: The Chinese Room (www.gla.ac.uk)

It is important to note that the individual and the system will pass the Turing Test. However, the Turing Test does not seem to guarantee a phenomenal conscious mind. According to the Turing Test, if a machine can trick us into believing it has consciousness, then it passes the Turing Test. However, it seems like the Chinese Room argument proves that the appearance of qualia is not a reliable indicator of the presence of the real thing. A

system that passes the Turing Test may be simulating a conscious mind, this does not that it really has a conscious mind. This conclusion seems to apply to any physical system, which shows stereotypic behavior.

5.2.4 The inverted spectrum argument:[135]

If there is a world, which is physically identical to ours, but the facts about conscious experience in it are different, then it is established that consciousness is not logically supervenient on the physical. As long as some positive fact about experience in our world is not identical in a physically identical world, then consciousness does not logically supervene on the physical. It is logically possible to conceive of a world, in which conscious experiences are inverted. In a counterfactual world, there is a person who is physically identical to me (atom for atom), but he has inverted conscious experience. Where I experience red, my inverted twin will experience green, and vice versa. The important thing is that experience he has of the thing we both call red is the experience that I have of the thing we both call green.[136] My inverted twin and I are input and output equivalent, but we have different inner lives. One could argue that in a case of such inversion the two individuals would not be identical with respect to their neurophysiology. Nevertheless, this is a gross misunderstanding of the facts in that field. Color perception is a highly subjective process, and no rewiring of the neural pathways is necessary to achieve various subjective qualia.

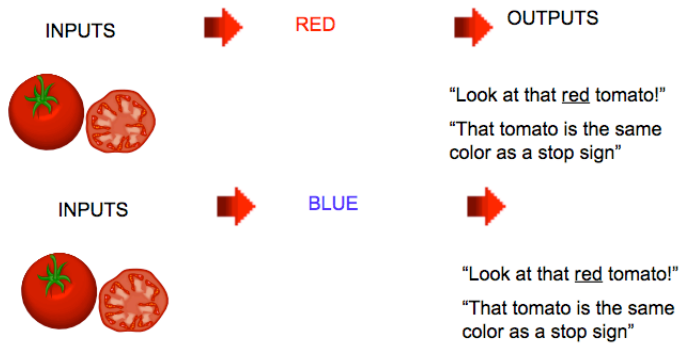

Fig. 5.2: Inverted Spectrum (www.absoluteastronomy.com)

[135] Heil, *Philosophy of Mind.*
[136] Flanagan, *Consciousness*, p. 68.

Flanagan admits this point but he proposes the emphasis should be put on the undetectibility of such phenomenon. He proposes that color perception could be linked with emotions or feels. Some colors have cool tone, while others have warm tone. This needs qualification. If this is true, then there should be laws that govern such relationship. Otherwise this too would be to subjective experience (as it obviously is), and so it would empirically unavailable. Further, the argument can be formulated in such a way that would avoid this issue altogether. It is logically possible to conceive a world that has creatures with color perception devoid of any emotional content and it is equally logically possible to conceive a counterfactual world (to the first world) which has creatures that physically identical to the actual world but they have inverted perceptions. It is also coherent to state that color perception can be inverted without any reorganization of the neurons. Facts about consciousness don't to be entailed by the physical facts. Qualia do not logically supervene on the physical. Consciousness is a further fact.

5.2.5 Epistemic asymmetry argument:

Our knowledge of consciousness is a personal one. It is based on our internal life and it is subjective. Our knowledge of other's consciousness is based on indirect evidence. We cannot observe other's qualia. We have to take their word for it. There is nothing in the physical world that would give us a clear causal relationship to consciousness. This puts consciousness in a distinct class. This problem does not exist for physically supervenient facts. There is no problem of other lives. I do not have to take your world for it that you are alive. I can perform a functional analysis and come to that conclusion myself. Life is third person observable and functionally analyzable. Our knowledge of consciousness is, in contrast, first person based. It does not lend itself to empirical analysis unlike awareness. Another example would be memory. Memories are third person available. They can be verified through tests. Their neural circuitry is to some extent clear. It involves the hippocampus, tertiary cortex, frontal lobe, and etc. clinical cases of amnesia and Alzheimer point to the physical nature of memories. The only thing that escapes definition is the qualia of memory. Again, this argument seems to prove that consciousness is logically supervenient on the physical.

5.2.6 The knowledge argument:[137]

It can be imagined that we live in an age of completed neurosciences. All that there is to know about mental life from a neuroscientific standpoint is known. In this world, Mary has been raised in a black and white room. She has never seen any color other than black and white and shades of gray. However, Mary is the leading neuroscientist in the world. All the physical facts about brain and mind are available to her. She is in possession of all concepts that she would need to give a reductive and functional explanation of the higher-facts. She knows everything about neural visual processing and optics. Now she is taken out of her room. She is shown a red dot. At this point, she might have known everything about the physical description of red, but this is the first time that she experiences what red is like. This is further fact that she has learned. This further fact, about the qualia of seeing red, stands beyond all her physical knowledge. The phenomenal experience of seeing red could have never been captured by any amount of reasoning. This point fits well with Nagel' argument about other organisms. Even if we come to know all the physical facts about bats, we could not know how it feels to be a bat. We could imagine how the bat interacts with its environment, or we come to know its internal states through monitoring. However, we could never know the qualia that go with all these processes: "from the physical facts about a bat, we ascertain all facts about a bat, except the facts about its conscious experience".[138]

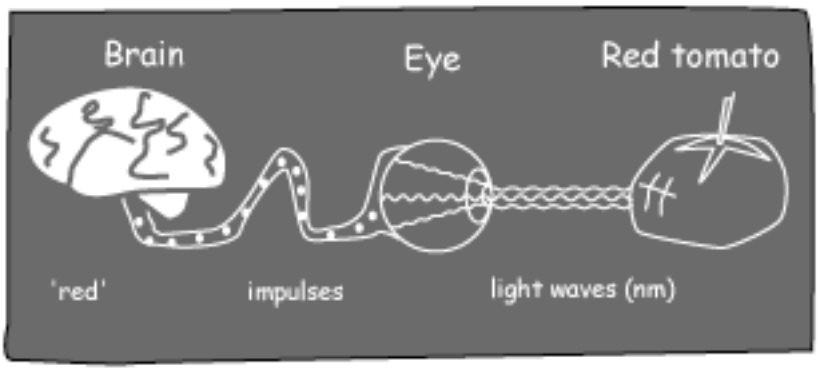

Fig. 5.4: The Knowledge Argument (www.knol.google .com)

[137] Jackson, F., (1982) Epiphenomenal Qualia, *Philosophical Quarterly 32*, pp. 127-136, 130.
[138] Nagel, *What is like to be a Bat?*

Jackson's argument is highly contested. If it is proven that Mary has learned a new fact, then it is a direct blow to materialism. The disputes are centered on the question, whether Mary has actually learned a new fact. Churchland suggests that Mary has gained new knowledge, but she is in possession of no new fact. Mary has learned an old fact in a new way, under a new "mode of presentation".[139]

Whenever one has knowledge of a fact under one mode of presentation but not under another mode, there will be a different fact that one has no knowledge of- a fact that connects the two modes of presentation.[140] For instance, if one knows: watery stuff is water. Nevertheless, he does not know that H_2O is water. Then that person lacks the knowledge that watery stuff is H_2O. Once he comes to know this new mode of presentation, then he has a further fact about the relationship that he was ignorant about.

Lewis argues that Mary is not in possession of any new facts but a new ability. Mary has gained the ability to imagine the sight of red things and to recognize them later. Mary's knowledge is a knowledge of how and not a knowledge that. It is ability rather than a fact. There is no argument that Mary has learned a new ability, but that ability is experienced subjectively. These qualia are a further fact about the ability. Before, Mary had all the physical knowledge. She had a concept of red, but she never knew how it was like to see red. It could have been that way, this way, or like nothing at all. Now she knows that seeing red is like this and not like that. Seeing red is like something rather than nothing.

To explain the problem of Mary's knowledge, Dennett has taken a more radical approach. "Dennett quines qualia".[141] He denies the existence of qualia altogether. Dennett proposes that Mary has not learned anything at all. This is highly implausible, because of our first hand knowledge of qualia. Dennett proposes a connectionist model with an evolutionary twist. This is in essence a pandemonium cognitive model, in which there is no "headquarters" but smaller agents competing for attention among them. Undoubtedly, this is a fascinating model of awareness with emphasis on attention. However, it provides no solution to the problem of subjective experience. However, to deny that qualia are nonexistent seems very desperate.

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[139] Churchland P. S., (1988) *Neurophilosophy: Toward a Unified Science of the Mind-Brain*, MIT, Cambridge Mass.
[140] Chalmers, *Consciousness*, pp. 103-04.
[141] Flanagan, *Consciousness*, pp. 97-102.

It is clear that Mary has come to know a further fact about the world. A fact that was not available to her in her repository of physical knowledge. Therefore, consciousness does not seem to supervene logically on the physical.

5.2.7 The absence of analysis argument:

Here the burden of proof is shifted to the materialist position. Materialism has to provide a functional analysis for consciousness. A functional analysis is a more illuminating and a less burdensome task than a purely reductive description. With respect to consciousness, this functional analysis seems to be nowhere to be found. The route that is usually taken is to collapse consciousness and awareness into one concept, and then proceed to describe awareness. Consciousness and awareness are not one concept but accompanying phenomenon. It is logically and naturally possible to have awareness without consciousness. Description of all physical facts about awareness still leaves one question outstanding: why does it have qualia? This further fact is not entailed by the physical facts.

5.2.8 Some alternative approaches:

Empirical science has done a valiant job to resolve this issue, but so far, they have only succeeded in a functional account of awareness. Francis Crick expresses it best: "well let's first forget about the really difficult aspects, like subjective feeling, for they may not have a scientific solution. The subjective state of play, of pain, of pleasure, of seeing blue, of smelling rose- there seems to be a huge jump between the materialistic level of explaining molecules and neurons and the subjective level".[142] In a way, this "huge jump" is leap of faith that needs to be reconsidered and reevaluated. Crick, however, proposes a theory of binding. Awareness involves many areas of the brain. Since there is no structural command center yet found, this poses a problem. There needs to be unifying principle, which brings together all aspects of one experience. Crick and Koch show that these elements are unified through certain oscillation (such as 40-kHz in visual cortex). Therefore, phase and frequency of certain neural structures and networks can unify

[142] Gazzaniga M. S. ed., (2000) *The New Cognitive Science*, Bradford Book, MIT press, Cambridge Mass., 2nd ed.

different elements into one experience. This fascinating theory is quiet with respect to qualia.

Modern physics provides other avenues of research. Quantum mechanics entails elements of nonlocality and indeterminacy, which could provide some answers to our questions. Penrose suggests that laws that reconcile quantum mechanics and general relativity can solve the problem of consciousness.[143] There are unknown gravitational effects that can cause the collapse of the quantum wave functions. This is nonalgorithmism. Penrose suggests that the collapse of quantum wave functions by gravitational forces could happen in microtubule proteins. Since consciousness is also nonalgorithmic, consciousness could be caused by these collapses. There are three specific problems with this proposal. One, it is highly speculative and no evidence is present to even vaguely point to this possibility. Two, why microtubules? These are proteins present in all kind of cells. They are responsible for intracellular transportation and cellular architecture. They are of the same family proteins as, myosin and actin (muscle proteins). The problem is that why the collapse of wave function would happen in neurons and not other cells. And if this collapse happens in all kinds of cell, then why it would give rise to consciousness in nervous system alone and not other systems. It seems that either the authors of this theory have given some answers and qualifications, or they will have to commit to a form of panpsychism. The latter option is unlikely since these are committed materialists. Three, physics deals with structures, functions, and dynamics. A new kind of physics will also continue these analytic methods. There is no evidence that this kind of analysis would give an account of phenomenology. The question remains. The logical possibility of a world remains that will have all the quantum elements without qualia. The questions of ontology of consciousness and reductive explanability (in a functional sense, or purely reductive sense) are closely related.

The presented arguments have a direct bearing on the ontological question: is consciousness physical? Consciousness does not seem to supervene logically on the physical. One might argue that the presented arguments prove a case against materialism based on logical supervenience, and sentential materialism, while they don not affect

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[143] Penrose, R., (1994) *Shadows of the Mind: In Search for the Missing Science of Consciousness*, Oxford Univ. Press, pp. 369-371.

ontological materialism, and nomic supervenience. Sentential materialism is the position in the defense of reductive description of all higher-level facts in terms of the physical facts. As shown, the reductive explanation is not necessarily a systematic regressive analysis to the level of fundamental elements. It can, and to large extent it is, a functional analysis that establishes a physical causation at any level. This is plausible since the physical world is causally closed. Ontological materialism is a factual statement about the world; it states that all the facts in the universe are logically supervenient, or nomically, on the physical facts. The arguments presented suggest that consciousness does not seem to be logically supervenient on the physical. This affects sentential materialism. However, does it affect ontological materialism? The argument can be presented as such:

1) It is an undisputable fact, based on our subjective knowledge consciousness exists.

2) It is logically possible to conceive of a world that is physically identical to ours, but it is devoid of conscious creatures or it has different facts about consciousness.

3) Therefore, consciousness is a further fact about the world that is not entailed by the world.

4) For materialism to be true, all the facts in the world must be supervenient on the physical facts.

However, we need to provide more evidence to reject nomic supervenience, since the rejection of materialism based on logical supervenience does not automatically entail the rejection of natural supervenience.

If consciousness is not physical and the physical world is causally closed, then how is consciousness interacting with the physical world. How can it cause behavior? There are different strategies to deal with this problem. One is to propose that consciousness is merely naturally supervenient on the physical. There are certain laws that regulate the interaction of these two entities. This implies certain kind of property dualism. However, there is a problem for nomological supervenience of consciousness, which stems from the thesis that the physical world is causally closed and that mental and physical events do not *overdetermine* their effects. The point is that a physical event is sufficient to give rise to another physical event. This is a direct consequence of the causal- closedness of the physical world. All physical events have sufficient physical causes, which bring about

those events. A mental event supervenes on the physical events. Moreover, the physical event determines the existence of the mental event; and the mental event cannot change without a corresponding change in the physical event. The nature of this determination of the mental by the physical cannot be anything other than causality for nomological supervenience theory. Now let us consider the following case:

1) P_1 (C-fiber firing in a particular neural pathway) causes P_2 (twitching of the left eye).
2) M_1 (pain) supervenes on P_1 (C-fiber firing).
3) M_1 (pain) causes P_2 (twitching of the left eye).

(1)	(2)	(3)
	$\mathbf{M_1}$	$\mathbf{M_1}$
	$\uparrow$	$\uparrow \searrow$
$\mathbf{P_1 \rightarrow P_2}$	$\mathbf{P_1}$	$\mathbf{P_1 \rightarrow P_2}$

Fig. 5.5: Mental causation

Now, P_1 should be sufficient for the occurrence of P_2, if the theory of the causal closedness of the physical is true. However, if one denies that M_1 causes P_2, then one advocates epiphenomenalism. The acceptance of (2) means that either P_1 is not sufficient for happening of M_1, which contradicts the principle of closedness; or it means that both M_1 and P_1 are sufficient for occurrence of P_2, which means that physical events are *overdetermined.* Now, the question whether overdetermination is something that physicalism can live with. Overdetermination is the notion that there can be two, or more, distinct, and individually sufficient, causes for any physical effect. There seems to be five different types of overdetermination:[144]

1) Preventive overdetermination.
2) Potential overdetermination.

[144] Braddon-Mitchell, *Philosophy of Mind and Cognition.*

3) Sequential overdetermination.
4) Emergent overdetermination.
5) Actual overdetermination.

Preventive overdetermination is the case where A and B are both individually sufficient causes for the effect E. However, through chance one prevents the other from becoming causally efficacious. Hence, the remaining potential sufficient condition causes E. For instance, A is one billiard ball and B another Billiard ball. The effect E is the sinking of the black ball in corner pocket. Here, both A and B are set in motion and each can sink the black ball alone. However, somehow ball A hits ball B in a way that B is diverted but A, itself, goes on and sinks the black ball. Here, we don't have a proper overdetermination. The effect E was actually caused by one factor alone. Moreover, which factor, A or B, succeeds is a matter chance and not rule. Hence, it seems such type of overdetermination should be ruled out for the case of mental causation.

Potential overdetermination introduces the occurrence where E comes to existence in the presence of both A and B. However, there is temporal discrepancy between the effectiveness of A and B. One condition predates the other. For instance, B becomes efficacious five seconds after A. This is the case where B *could have* caused E, provided that it had occurred in a more timely manner. Here, E is not actually overdetermined, but it could have been. This point makes it, hence, irrelevant to the case of mental causation.

Emergent overdetermination submit the instance where A and B combine in a unique way and a new factor AB emerges from them, which is a sufficient condition for the causation of E. In this instance, it is actually AB which causes E. It is neither A, nor B. Hence, A and B are not necessary conditions for E, but they are necessary conditions for E. The problem is that in our case AB would present a hybrid between a physical event and mental event. It is not clear what kind of entity this emergent event would be. That forces us, moreover, to introduce a whole new set of mysterious phenomenon into our ontology. That is not necessarily a disaster. What is disastrous for us is that, this scenario assumes what we want examine and prove. It already assumes that the mental and physical entities can interact. This is precisely the point of contention here. Hence, any argument resorting to emergent overdetermination would be fallacious.

Sequential overdetermination presents the case of chain of events. Here, each member of the chain is a sufficient condition for the next member of the chain. So, A is a sufficient condition for B, B is a sufficient condition for C, C is a sufficient condition for D, and D is the sufficient condition for E. Consequently, A causes B, B causes C, C causes D, and D causes E. It is needless to say that this type of overdetermination is irrelevant to the case of mental causation. It cannot answer the question whether a mental event can be the sufficient condition for the causation of a physical event.

Actual overdetermination, alludes to the situation where A and B are both sufficient conditions for the causation of E. Moreover, A and B simultaneously cause E. Here, the key is the temporal simultaneity, since it guarantees that overdetermination is actual and proper. There are, however, two main problems with this case. First, there are no known established and undisputed cases of proper overdetermination in the physical world. We cannot simply say that mental case is the only case. That would be an arbitrary solution to our problem, because we solve any problem like that. Assigning the label of brute fact to a phenomenon should be the last resort and not the first option. The second problem is that even if we agreed that actual overdetermination could be a viable option for mental causation, it is still violates the laws of conservation of energy and the principle of casual completeness of the physical world.

Indetermination, also, does not provide a way out of this dilemma. As we discussed before, the physical explanation, which describes that each physical event maybe irreducible and probabilistic, based on the laws of quantum mechanics, still requires these indeterminate probable causes to be physical. There seems to be no room for non-physical stuff in the quantum picture.

It does not seem that overdetermination presents an acceptable alternative. Hence, nomological supervenience (and supervenience theory in general) must embrace epiphenomenalism, or it must be rejected it. So, what is epiphenomenalism?

5.3 Epiphenomenalism

An epiphenomenon is a causally inefficacious by-product of some process. According to epiphenomenalism, although mental events are caused by physical events,

they are only epiphenomenon. Consequently, mental events are events incapable of causing any further events.

This means that mental events are causally inert; they are causally inefficacious. Epiphenomenalism, therefore, is characterized by a *one-way causal interaction.* In other words, physical events cause mental events as a by-product. However, mental events cause nothing whatsoever. Thomas Huxley presented the classical formulation of epiphenomenalism:

> "All states of consciousness in us, as in brutes, are immediately caused by molecular changes of the brain-substance. It seems to me that in men, as in brutes, there is no proof that any state of consciousness is the cause of change in the motion of matter of the organism. If these positions are well based, it follows that our mental conditions are simply the symbols of consciousness of the changes which take place automatically in the organism; and that, to take an extreme illustration, the feeling we call volition is not the cause of a voluntary act, but the symbol of that state of the brain which is the immediate cause of that act. We are conscious automata…" [145]

Traditional substance dualism:

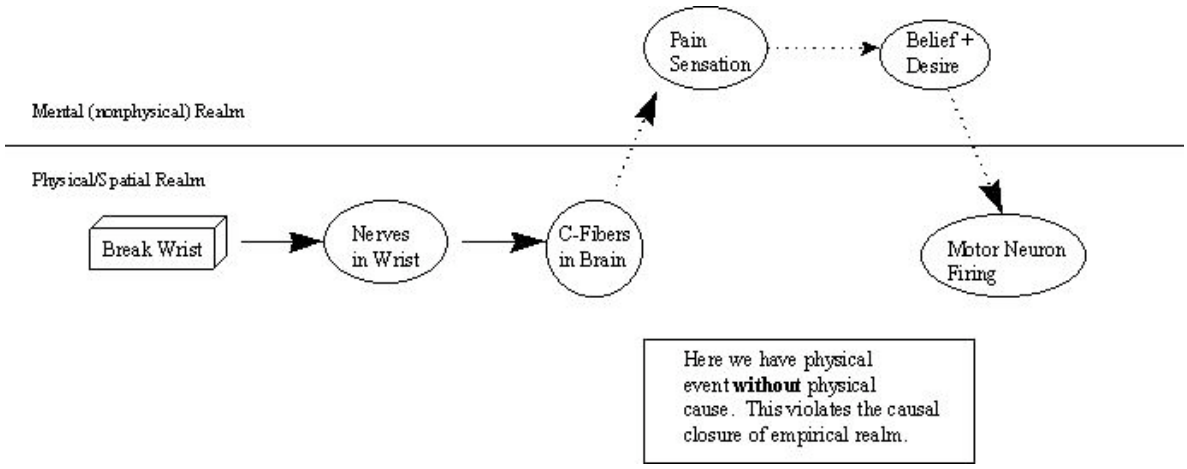

Fig. 5.6: Traditional substance dualism (www.en.wikipedia.org)

Epiphenomenalism:

[145] Huxley, T. H., (1893) *Methods and Results*, Appleton-Century-Crofts, New York, p. 244.

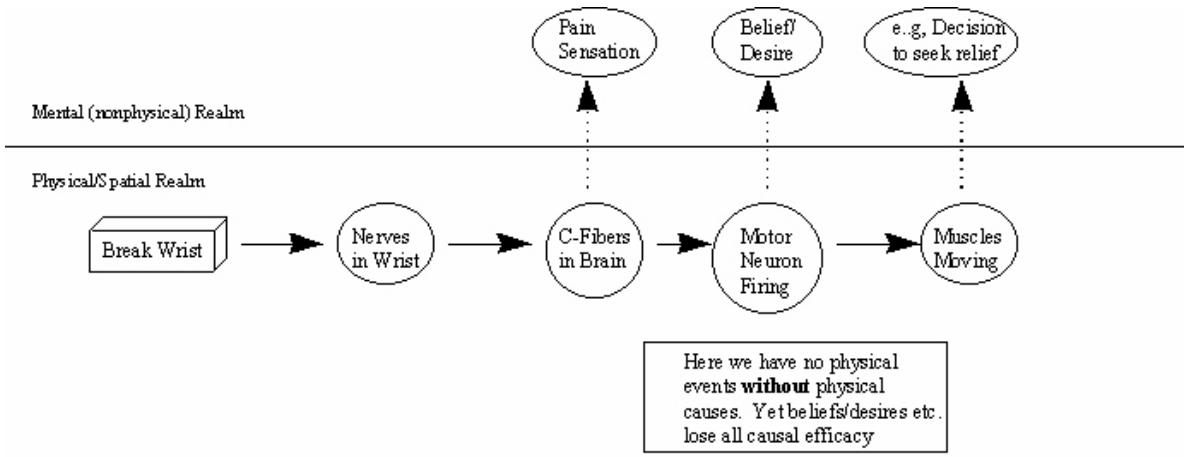

Fig 5.7: Epiphenomenalism (www.en.wikipedia.com)

Epiphenomenalism can be an appealing theory for several reasons. First, epiphenomenalism is compatible with the evolutionary theory. Here, consciousness is by-product of evolution of ever more complicated physical forms, while consciousness is causally inefficacious toward the material events. Secondly, epiphenomenalism is compatible with a desire of scientific controllability. If this theory is true, then explanation and prediction of behavior becomes a much more manageable project. This makes psychology much easier. The third apparent advantage of epiphenomenalism is that will not introduce a gap in the fabric of the physical universe. Moreover, it will not violate the laws of conservation of energy and the principle of causal completeness of the physical world.

In spite of the appeal, epiphenomenalism is an implausible view for various reasons. First, it rejects the effects of people's minds on the course of events. This objection addresses the un-intuitiveness of epiphenomenalism. This view denies the role of thoughts, beliefs, desires, dreams, joys, or sorrows in the development of personal and humanity's history. This view diminishes human history to a ridiculous position. It makes the practice of psychotherapy and psychiatry meaningless. However, this is quite objectionable. Moreover, it is the burden of the proponent of this view to prove why mental events seem 'as if' they are causally efficacious.

Secondly, epiphenomenalism does not fit the materialist ontology. The materialist ontology is about phenomenon and their qualities. The laws of nature explain the relationships of these phenomena. However, epiphenomenalism introduces a new entity in this ontology, the epiphenomenon; but there is no room for this new entity within the

materialist ontology and the natural laws presented by science. Hence, epiphenomenalism requires a new set of natural laws to describe natural relations.

The third problem with epiphenomenalism is that it makes its own justification impossible. J. B. Pratt presents this objection:

> "To say that a thought is even in a minute degree a co-cause of the following thought would be to wreck epiphenomenalism. In the process known as reasoning, therefore, it is a mistake to suppose that consciousness of logical relations has anything whatever to do with result…We may happen to think logically; but if we do, this is not because logic had anything to do with our conclusion, but because the brain molecules shake down, so to speak, in a lucky fashion. It is plain, therefore, that no conclusion that we men can reach can ever claim to be based on logic. It is forever impossible to demonstrate that any thesis is logically necessary." [146]

Pratt insists that this conclusion applies justifiably to the epiphenomenalism theorist's conclusion.

The fourth problem raised against epiphenomenalism is that it requires *nomological danglers.* Herbert Feigl raises this objection. Feigl maintains that epiphenomenalism will lead to some peculiar interpretation of scientific laws:

> "It accepts two fundamentally different sorts of laws—usual causal laws and laws of psychphysiological correspondence. The physical (causal) laws connect the events in the physical world in the manner of a complex network, while the correspondence laws involve the relations of physical events with purely mental "danglers". These correspondence laws are peculiar in that they may be said to postulate "effects" (mental states as dependent variables) which by themselves do not function, or at least do not seem to be needed, as "causes" (independent variables) for any observable behavior." [147]

This means that the epiphenomenalism forces us to postulate two different types of causal laws. In the usual case, causal laws express causal connections between events that each is the member of the causal chain being determined by the previous member in the chain and determining the next member in the chain. Consequently, the standard causal laws connect events, which, while caused, are themselves causally determining factors of what happens after them. Epiphenomenalism, however, introduces the need for a new type of causal

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[146] Pratt, J. B., (1922) *Matter and Spirit*, McMillan Publishing CO., Inc, p. 21.

[147] Feigl, H., (1971) *Mind-body, Not a Pseudoproblem*, Hook, *Dimensions of Mind*, University of Minnesota Press, p. 37.

explanation. The psychophysical laws proposed by epiphenomenalism would be radically different. These new laws would legislate the causal relationship between physical event that are part of physical chain, and mental events that are not members of any physical chain. So, mental events function as factors, which although integral part of certain laws, *dangle* uselessly, since they are unnecessary for the explanation and prediction of human behavior. Hence, they are 'nomological danglers'.

The collective power of these objections seems to render epiphenomenalism untenable. However, the question is what happens to non-reductive materialism of the nomic variety. Now, it is beyond dispute that there is a great degree of automaticity in human behavior. However, this does not go to prove that all human mental events are automatic and the efficaciousness of mental events, processes, and states is an impotent illusion. Empirical research bears witness to the efficaciousness of mental events. We will discuss this point in more detail in future.

At this point, we can summarize the fate of the supervenience theory as such: logical supervenience fails, because it cannot account for phenomenal consciousness; while nomic supervenience fails, because it leads to causal overdetermination or epiphenomenalism. Consequently, both are false. It seems like we have ended up on a quite hopeless station. The question then is where do we go from here.

At this point, we must produce an alternative position, which will become the corner stone of the position advocated in this project. The strategy is to advocate the concept of the intrinsic nature of the world. The fundamental entities in the world are only characterized in a relational sense. The fundamental entities are defined in terms of their causal relationships with other entities. This picture of the world is a "giant causal flux". However, this never tells what the causation relates. There is a void when it comes to the intrinsic nature of the entity. The causation describes the relationship between these voids, but it never describes the void. Therefore, the relational analysis cannot supply the whole picture. The desperation of our situation warrants a fundamental change in our paradigm, which begins from the ontology that we have presupposed in all our discussion so far, and it will end in a preliminary exposition of the nature of mind. In other words, we need a new ontology in order to give a better theory of mind. The only viable option seems to be save both physicalism and mind. We cannot sacrifice one at the feet of the other.

Part Two

This section constitutes the constructive, synthetic, and analytic part of the work. In this section, I present the outlines of what I believe to be the correct direction of handling the question of nature of mind and consciousness. It comprises chapter 6 (Kant's Criticism), chapter 7 (the hermeneutic phenomenological criticism), chapter 8 (the fundamentals of process ontology), and chapter 9 (applying process ontology to consciousness, emergence, and logic).

Chapter Six

Kant's Transcendental Idealism and Empirical Realism

Kant was intellectually born into a world torn between the dreamy illusions of the rationalists and the mundane practicality of the empiricists. Rationalists believed that the truth about the world is accessible to human mind independent of all experience. We can know the truth without our engagement in the world. Truth is something that can be arrived at by a rational abstractive intellectualization. In other words, all true knowledge is independent of experience, because experience is contingent. Hence, the knowledge derived from experience is uncertain. For the rationalists, true knowledge must be universal and necessary. It follows that it must be independent of experience, *a priori*.
On the other hand, the empiricists believed that the world is, as it seems. All our knowledge of the world is based on our experience and experience is nothing more than sense perception. In other words, all knowledge is *a posteriori*.

Kant set out to find a third way, a correct way of arriving at truth. Not a path on which our perspective evaporates into irrelevance as rationalists proposed. In addition, not a path on which the world is reduced to mere appearances, as the empiricists suggested. Kant's project is to establish our place, as sentient and rational beings, in the world.[148]

Kant's reconciliation of the rationalist and empiricist positions consists in denying that the material of experience is raw. Kant asserts that we never have experience of the world as it is in itself. The material of experience is a composite, which has already been processed and structured by our minds. Consequently, the rationalists' principles of reason apply to empiricists' raw material of experience. What we know is not nature as it is, but nature to which our minds have already given meaning. The world we know is the world our minds articulate—the phenomenal world, and not the world as it is itself—the noumenal world.

Kant's system mediates between empiricism and rationalism, by recognizing the contentions of both in a system, which transcends both. The a priori knowledge applies to the world, because it is partially the architect of the world we know. Kant rejects the notion that all we know consists of our own ideas and our knowledge is limited to the contents of

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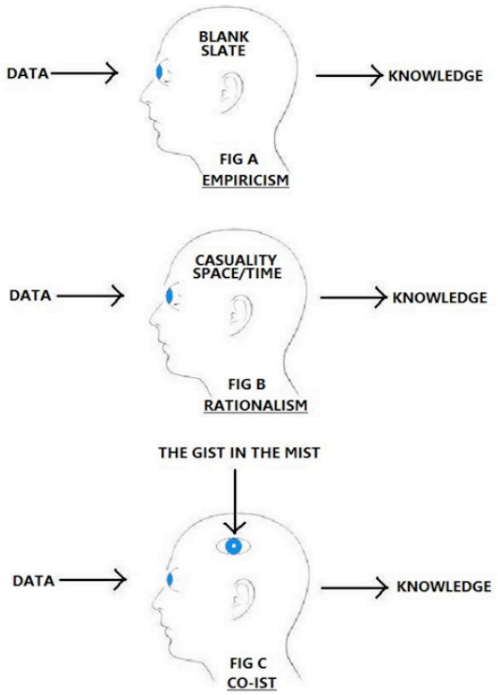
[148] For a more involved discussion of Kant consult: Hoeffe, O., *Immanuel Kant*, translated by M. Farrier, State University New York Press, Albany, 1994, pp. 31-107.
Allison, H., (1983) *Kant's Transcendental Idealism: An Interpretation and Defense*, Yale University Press.

our minds. In fact, Kant claims that we become conscious of ourselves only by knowing something that is other than ourselves. This is in direct refutation of mentalist views of Locke, Berkeley, and Hume. Humans do not invent the concept of a world outside of themselves and project it from their inner consciousness. On the contrary, we start with the consciousness of outside objects. Subsequently, we become conscious of our own mental states.

Consequently, as far as Kant claims that something other than ourselves is implied in our experience of the outside world, he is a realist. However, in so far as, he asserts that the thing other than ourselves is never experienced independent of ourselves, and the forms of intuition and the principles of understanding shape it, Kant is an idealist. This is, in essence, the doctrine of *transcendental idealism* and *empirical realism*. In other words, the world is empirically real and transcendentally ideal.

The starting point of Kant's inquiry is the scientific methodology of finding the truth about a state of affairs under investigation. For Kant, it was a matter of fact that Descartes and the subsequent thinkers preceding Kant did not realize the importance of the fact that scientific investigation is comprised of both an empirical as a rational aspect. The post-Cartesian philosophy was characterized by upholding the importance one or the other factor and dismissing the aspect altogether. The failure of the rationalist as well as the empiricist proponents culminated in the inability to give a proper account of what knowledge is. In other words, how do the empiricist and rationalist components combine in cognition to generate knowledge?



Kant makes two main observations in his investigation of the scientific method. First, it were true that the test of truth in the science is the strict correspondence of mind with external state affairs and objects, then science is in the position to discover only particular truths. This means that science could never be able to make universal claims, since we can never describe, or observe, *all* states of affairs. Consequently, the strict correspondence of mind with external objects or states cannot be the test for universal truths. Secondly, at the core of scientific methodology is design and implementation of experiments. However, experiments presuppose a set of questions, which the scientist puts to nature. This act of questioning testifies to the fact that the mind plays an active role and not a passive observer of events. So, truth is not the just the product of correspondence of mind external state of affairs, but also the agreement of the external objects with the mind. Consequently, knowledge is a cooperative affair.

To prove his point, Kant makes a crucial distinction between form and content. Take the proposition 'some roses are red', for instance. Kant does not claim that the truth of this statement is determined by the agreement of the content of this proposition with the mind. That is clearly false. The content of this proposition clearly describes a state of affairs of the world, which can be verified by observation. Kant, however, makes the point

that all the judgments we make can be subsumed under certain categories such as an object has certain quality, an object enjoys a certain degree of a quality, an event is ground for another event—or it has been caused by another event—so on and so forth. Accordingly, knowledge is a cooperative affair, in which the external affairs account for the relata of a judgment, while the mind provides the relation, and attributions, of the content of a judgment. So, the mind does not decide whether some roses are actually red, but it relates the concepts of *roseness* and *redness* in terms quality attribution, qualification, quantification, universality, particularity, causality etc. The mind provides the form of judgments and not their content. The mind does not determine whether the book is on the table, or on the chair, or on the sofa. However, all of these descriptions have a spatial relation 'on', which cannot be derived from the content of the experience but it is presupposed by the experience. Or in the case of the judgment 'this rose is red', the experience provides the fact that this rose is whether red or another color. However, the mind supplies the 'is'. Remember that the mind experience an object through various modalities such as olfactory, gustatory, auditory, or visual. It is the mind's role to subsume all these streams of information under one concept and then establish qualifications for this class of object such as universality, particularity, causality, substantiality, etc. We could also say that in a scientific, or any other inquiry, the mind asks questions based on its own attributions and the nature responds to these specific questions. Nature is a witness on the witness stand in a court of law, who answers only the questions posed to it by the prosecution and defense. The nature does not engage in a free narrative. More importantly, even if the nature did engage in a free narrative, we would not able to understand this narrative, because the attributions of the mind are a reflection of the structure of mind. This how the mind necessarily understands the world.

For Kant, a judgment is a cognitive act, which connects and combines two objects. This is possible, since the mind identifies a connection between the objects. The mind establishes this connection mainly through experience. For instance, through sense experience we pass the judgment that 'the house is tall'. This instantiates the case of *a posteriori* or empirical proposition. However, there are judgments that are independent of all experience. That the sum of the internal angle of a triangle is hundred eighty degrees is derived from the definition and not the successive measurement of triangles in the world.

> "Experience teaches us that a thing is so and so, but not that it cannot be otherwise. First, then, if we have a proposition which in being thought is thought as necessary, it is an a priori judgment…Secondly…if, then, a judgment is thought…in such a manner that no expectation is allowed as possible, it is not derived from experience, but is valid absolutely A priori.
> …Necessity and strict universality are thus sure criteria of a priori knowledge, and are inseparable from each other."[149]

Kant makes a further distinction between the analytic and synthetic judgments. In the analytic proposition the concept of the predicate is included in the in the subject. Take the proposition' murder is wrong'. Here the concept of wrongness is included in the concept of murder. There is no such a thing as righteous murder, since murder is defined as wrongful killing. However, in the statement of 'roses are flowers' is not an analytic statement, since the idea of flowerness is not implied by the concept of roseness. One must go out into the world and verify the truth of this proposition. Statements of this sort are called synthetic propositions. They say something about the world above and beyond definitions.

The combination of this two pairs of possibilities yields four possible types of judgments: analytic *a posteriori*, analytic *a priori*, synthetic *a posteriori*, and synthetic *a priori*. The first combination is impossible. There can be no analytic a posteriori judgments, since all analytic judgments are universal and necessary. While, synthetic judgments are contingent and they describe everything particular and contingent. In the case of analytic a priori propositions, since all definitions fall under this category. An example would be the statement: 'all bachelors are unmarried men'. Here the concept of 'unmarried men' is implied by being a bachelor. Furthermore, once we accept this linguistic convention, then it becomes universal and necessary. There is no unmarried man, who is not a bachelor. Hence, this combination is quite unspectacular and beyond controversy. The propositions of this class are subject to the control of laws of contradiction as the test of truth. The case of synthetic a posteriori propositions is quite uncontroversial as well, since they describe the state of affairs in the world. The test of truth for this class of judgments is observation. In other words, they are warranted empirically through experience.

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[149] Kant, I., (1921) *Critique of Pure Reason*, translated by Kemp-Smith N., Maximillian, London, B xii-xvii, B 3-4.

So the outstanding question is whether synthetic *a priori* judgments are possible and what they say about the world. Moreover, what would be the test for their truth or falsity? The standard for the truth of synthetic a priori is not the law of contradiction such as analytic *a priori*, because these are synthetic statements. Hence, the concept of the predicate is not involved in the subject. The truth of synthetic a priori judgments cannot be determined by experience either as is the case of synthetic *a posteriori* propositions, since these propositions must be universal and necessary. Now question presents itself whether there is a standard besides logic and experience, which can be used as an arbiter of truth. Hume quite clearly rejects such possibility. Consequently, he undermines the possibility of synthetic *a priori* judgments. According to Hume, judgments can be only called matter of facts—synthetic *a posteriori*. Or propositions can be about relation of ideas—analytic *a priori*. In fact, Hume bases his rejection of causality and inductive reasoning on the possibility of these two types of propositions. Kant maintains, in contrast, that there are statements that describe matter of facts, which are also universal and necessary—synthetic *a priori*.

Now whatever synthetic *a priori* look like, traditionally there have been surmised to come up in metaphysics, mathematic, and natural sciences. Kant rejects the possibility of synthetic a priori in metaphysics. The role of reason in metaphysics, according to Kant, is regulative. Any constitutive use of reason in metaphysics leads to falsehood or antinomies, Kant called them. Kant also agrees with Hume that most statements in natural sciences are synthetic *a posteriori* in nature. Here, it most important to point out that Kant does not believe that all propositions of natural science are synthetic *a posteriori*. For example the statement that 'genetic mutations can cause disease' is certainly *a posteriori*. However, the statement 'every event has a cause' cannot be derived from experience. It is, hence, *a priori*—universal and necessary. In fact, this very fact is at the core of natural scientific propositions and laws and it validates the role of inductive reasoning in scientific methodology. Mathematics provides the major source for synthetic *a priori* judgments, according to Kant in opposition to Hume, who maintained that mathematical claims are analytic in nature.

We could reformulate Kant's position in terms of content and form, as we established to be important distinction in Kantian thought. Accordingly, the mind provides

certain forms and structures, which organize the content of experience as they are provided by sensibility. The universal and necessary aspect of judgments is not their content, but it is precisely these forms and structures of cognition. Hence, the universality and the necessity of these forms of judgments make them *a priori.* Moreover, they are synthetic, because their content is provided by experience and observation. This provides a bridge between the rationalist and the empiricist world-view.

> "But through all our knowledge begins with experience, it does not follow that it all arises out of experience. For it may well be that even our empirical knowledge is made up of what we receive through impressions and of what our own faculty of knowledge (sensible impressions serving merely as the occasion) supplies from itself. If our faculty of knowledge makes any such addition, it may be that we are not in a position to distinguish it from the raw material until with long practice of attention we have become skilled in separating it.
>
> This, then, is a question which at least calls for closer examination, and does not follow of any offhand answer:--whether there is any knowledge that is thus independent of experience and even all impressions of the senses. Such knowledge is entitled *a priori*, and distinguished from the empirical, which has its sources *a posteriori*, that is, in experience." [150]

6.1 Transcendental Aesthetics:[151]

Kant distinguishes between two faculties of knowledge. The lower faculty of knowledge is sensibility. The higher faculty is divided in two parts. One is the strict sense of understanding in concepts and the other is the faculty of judgments.

There are two stems of human knowledge, namely sensibility and understanding, which spring from a common, but to us unknown, root. Through the former, the objects are given to us; through the latter, they are thought. The interaction of the two is complex and profound. The constitutions of the sensory machinery furnish the content of the experience and the constitutions of understanding provide the form of experience and so the *a priori* structure. The interaction between the two is that of reciprocity. They are both equally

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[150] *Ibid*., B 1-2.

[151] Kant, I., *The Great Philosophers: Kant Selections* , ed. L. W. Beck, Prentice Hall, New York, pp. 104-109.

important in knowledge. It should be emphasized that this knowledge is not a psychological learning, but it is logical process and structure.

> "Without sensibility no object would be given to us, without understanding no object would be thought. Thoughts without content are empty, intuitions without concept are blind. It is, therefore, just as necessary to make our concepts sensible, that is, to add the object to them in intuition, as to make our intuitions intelligible, that is, to bring them under concepts. These two powers or capacities cannot exchange their functions. The understanding can intuit nothing, the senses can think nothing. Only through their union can knowledge arise."[152]

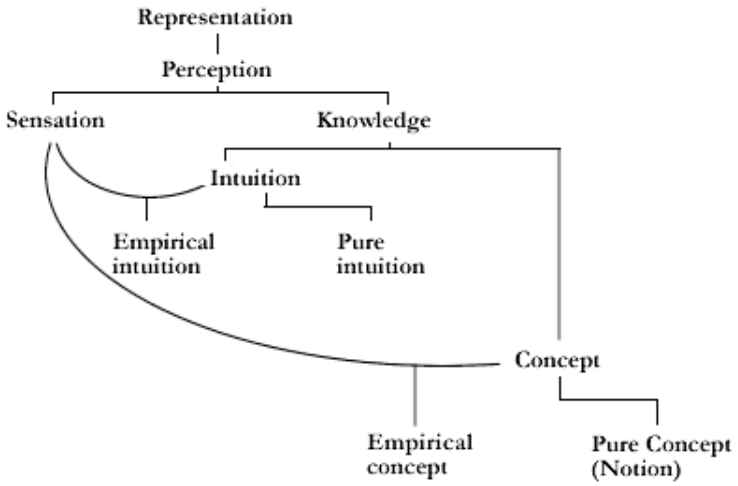

Fig. 6.1: Sources of knowledge (www.en.wikipedia.org)

Transcendental aesthetics is study of necessary and universal presuppositions of human sensibility. It is important to remember that sensibility in this context is interchangeable with sense perception, sensation, and the activity of the sensory organs. Sensibility is considered as a passive ability to receive external data. Intuition is the awareness of entities. The direct inference of knowledge to objects and the point of orientation for all thought is intuition, which directly grasps a particular. Sensibility is nothing but the capacity of the mind to be affected by objects. However, Kant makes a distinction between matter and form. Matter is that which is directly derived from sensation. Form is that which makes the ordering and structuring of those materials

[152] Kant, *Critique Of Pure Reason*, A 51/B 75.

possible. The form of sensible intuition is *a priori*. The process of sensibility can be summarized as such: the given object affects the mind. This capacity of the mind to be receptive is sensibility. This effect of the object on the mind is called sensation.

The forms of sensible intuition are obtainable through a process of abstraction. In the course of this investigation, it will be found that there are two pure forms of sensible intuition, serving as principles of *a priori* knowledge, namely, space, and time. Kant makes distinction between the inner sense and the outer sense. The form of the outer sense is space through which we represent to ourselves objects as outside us, and all without exception in space. The form of the inner sense is time through which the inner states are ordered and organized. By saying that space and time are forms of intuition, it is said that all sensations must always bear the stamp of temporal characteristic and sometimes spatial characteristic. Time is the form of our inner sense. This pertains to our mental states and it suggests that no mental state can be experienced outside of temporal organization. This experience does not have to correspond to an objective reality. Space is the form of outer sense. These are intuitions of an independent world. Nothing can appear to us independent of us without also appearing spatially. Things are always besides, above, below, behind, etc. of each other in the world of appearances. The phenomenon of visual field testifies to this claim. In furnishing the answer to the question what time and space are, Kant provides a distinction between the metaphysical exposition of an *a priori* concept and a transcendental exposition. According to the metaphysical exposition, space and time are presuppositions of experience and not derived from experienced. We can imagine space and time without objects and not vice versa. Transcendental exposition attempts to show how is it that we know objective and scientific truths about space and time if they are based on intuition. These are synthetic *a priori* after all. Space and time are neither absolute nor relative properties of things. This implies that space and time are not real. A Kantian answer to this charge would be that space and time are empirically real and transcendentally ideal. Time and space are phenomena as they are available to our minds. The true nature of things, things-in-themselves (the noumenal), is unavailable to us. Does this entail that we live in a world of illusion? It is not necessarily so. From the perspective of the empirical world, there is reality and appearance. The rain is real and the rainbow is an appearance. From the transcendental ideal perspective, not only is the rainbow is an appearance but also the

shapes of the raindrops for they correspond to geometrical forms. These are expressions of the forms of sensible intuition.

With regards to space, Kant states:

> "Space is not an empirical concept which has been derived from outer experience. For in order that certain sensations be referred to something outside me (that is, to something in another regions of space from that in which I find myself), and similarity in order that I may be able to represent them as outside and alongside one another, and accordingly as not only different as in different places, the representation of space must be presupposed. The representation of space cannot, therefore, be empirically obtained from the relations of outer appearance. On the contrary, this outer experience is itself possible at all only through that representation.
>
> Space is a necessary a priori representation, which underlies all outer intuitions. We can never represent to ourselves the absence of space, though we can quite well think it as empty of objects. It must therefore be regarded as the condition of possibility of appearance, and not as determination dependent upon them…
>
> Space is not a discursive or, as we say, general concept of relation of things in general, but a pure intuition. For, in the first place, we can represent to ourselves only one space; and if we speak of diverse spaces, we mean thereby only parts of one and the same unique space. Secondly, these parts cannot precede the one all-embracing space, as being, as it were, constituents out of which it can be composed; on the contrary, they can be thought only as in it. Space is essentially one; the manifold in it, and therefore the general concept of spaces, depends solely on limitations. Hence, it follows that an a priori, and not an empirical, intuition underlies all concepts of space." [153]

The other pressing issue is that why time and space are considered *a priori* forms of intuition and not *a priori* concepts. Concepts are general notions and they imply instantiations. There can be infinite instances of a general concept. Constituents of a concept synthesize the concept. Time and space, however, can be divided in constituents, but no synthesis of all constituents will give the whole of time and the whole of space. Therefore, time and space do not have instances but they are necessarily one. This means that there is one space and one time, which can be divided, in smaller units. The ideas of transcendental aesthetic, then, can be put as such. Objective knowledge has two sources:

[153] *Ibid*., A 23-25 = B 38-40.

sensibility and understanding. For the experience to occur and knowledge of the experience to be present, sensibility has to conform to understanding and vice versa. This means that concepts, judgments, and references must find their primary application in time and they must be temporally constrained. For example, the concept of substance must be applied, primarily, not in Leibnizian monads or Platonic Forms, but as an ordinary temporal thing that endures through time and it is subject to change. Moreover, if such substance is objective, meaning it appears independent of me, and then it must be spatial. Therefore, the challenge to prove the objectivity of the world is to prove and justify the every-day world of objects and mental states organized in space and time.

6.2 Transcendental Analytic and the Analytic of Concepts:[154]

Here the focus is to be shifted from transcendental aesthetics to transcendental logic. This is the *a priori* concept of understanding. Understanding transforms the objects of intuition into objects of thought. Understanding and sensibility play an equal and interdependent role in knowledge. Without sensibility no object would be given to us, without understanding no object would be thought. Thoughts without content are empty, intuitions without concepts are blind. The understanding can intuit nothing and the senses can think nothing. Only through their union can knowledge arise.

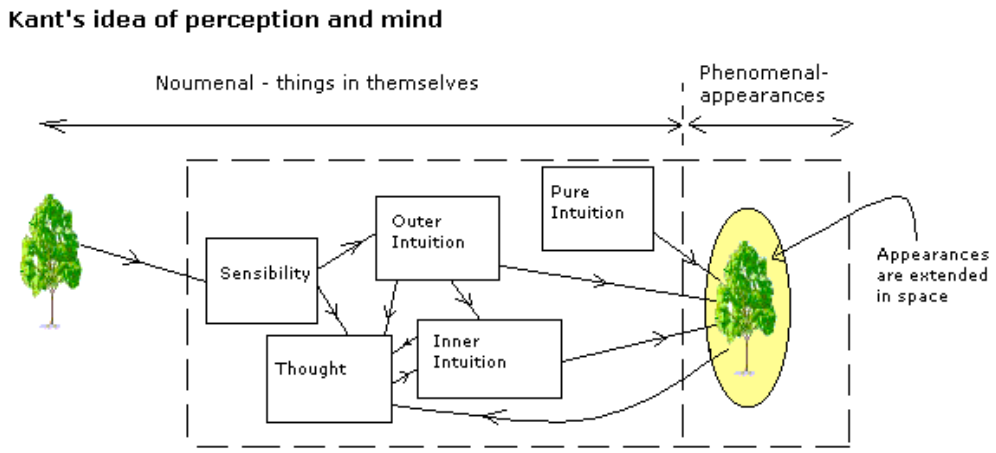

Fig 6.2: Kant's theory of perception (www.en.wikipedia.org)

[154] Beck, *Kant Selection*, pp. 110-115.

In this context, logic refers to rules of the operation of understanding. There are two types. General logic contains the absolute and necessary rules of thought without which there can be no employment whatsoever of understanding. Particular logic applies to the methodology of particular sciences. General logic in turn can be of two types: pure and applied. The latter, applied logic is concerned with empirical conditions for understanding, such as psychological factors. Pure general logic is, however, exclusively with the form of thought and not its content. Pure general logic is not concerned with the origins of thought and it is independent of psychology and logically prior to it.

Transcendental logic is concerned with *a priori* knowledge of logical applications. This endeavor can be divided into two distinct enquiries: the analytic and the dialectic. The transcendental analytic provides the criteria for valid empirical use of understanding. The transcendental dialectic provides a critique for the false and dogmatic use of reason.

The function of understanding is to produce concepts and to comprehend principles. The distinction between the concepts and principles can be illustrated by analogous distinction between the words and the sentence, where concepts correspond to words and principles to sentences. Hence transcendental analytic consists of two parts: the analytic of concepts and the analytic of principles. Analytic of concepts is largely devoted to deduction of categories. Here the methodology is first metaphysical and then transcendental.

For Kant, thinking is judging. Judging is a kind of cognitive combining and knowledge is the culmination of the judging process. As we discussed above, judging is always comprised of two components: an aesthetic sensory constituent and a conceptual structural factor. Hence, all knowledge, accordingly, must be made of an experiential component—which includes concrete data of sensory data and perceptions, and structural and relational aspect—which organizes the precepts and the sensory data by subsuming them under concepts. Hence, it gives them meaning. This is what Kant means when he says that "thoughts without content are empty, intuitions without concept are blind. It is just as necessary to make our concepts sensible, that is, to bring them under concepts".[155] So, here Kant makes a revolutionary discovery, namely precepts and concepts must be distinguished from each other.

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[155] *Ibid*., A 51, B 75.

In the metaphysical deduction, Kant provides a list of candidates for categories. In doing this, first, he determines that judgment requires form. In any proposition, the subject and the object provide the content of the proposition, while the verb provides the form of the judgment. Furthermore, Kant claims that perception is not a passive reception of sense data, but it is a type of judging. This is in stark contrast to the empiricist view. Hence, if perception is a type of judgment and if judgment has a form, then categories are forms of judgment.

Kant took over the concept of categories from Aristotle, which he found to be inadequate. Aristotle meant by categories the list of all possible attributes that can be predicated of a person. The list contained ten items: substance, quality, quantity, relation, place, time, posture, action, passion, and dress. Empiricist claims that all knowledge is derived and it is reducible to sensory intuitions. They claimed that concepts must correspond to sensory stimulus and there are no concepts that can derive their meaning from a different source. Kant believed the empiricist position to be implausible. The empiricists confuse sensation with experience. The understanding of experience results from the concepts that are already presupposed by experience. These concepts can be derived from senses, since these provide no structure. Therefore, understanding must be replete with concepts prior to sensory experience. Through, these concepts, I can apprehend the world that appears as mine. Not to have these concepts means not to have experience and knowledge at all.

> "The same function which gives unity to the various representations in a judgment also gives unity to the mere synthesis of various representations in an intuition; and this unity, in its most general expression, we entitle the pure concept of the understanding. The same understanding, through the same operation by which in concepts, by means of analytical unity, it produced the logical form of a judgment, also introduces a transcendental content into its representations, by means of synthetic unity of the manifold in intuition in general. On this account we are entitled to call these representations pure concepts of understanding, and to regard them as applying a priori to objects—a conclusion which general logic is not in a position establish.
>
> In this manner there arise precisely the same number of pure concepts of the understanding, which apply a priori to objects of intuition in general, as…there have been found to be logical functions in all possible judgments. For these functions specify the understanding

completely, and yield as exhaustive inventory of its powers. These concepts we shall, with Aristotle, call categories."[156]

By rejecting the empirical claim, Kant introduced the metaphysical deduction of categories. Kant's notion of category, in the metaphysical exposition, is based on the relationship between concepts and judgments. For Kant, a concept is a power to make certain judgments. To have the concept of plants is the power or ability to use plant in a variety of sentences. Each category corresponds to a form of judgment. Kant's abstraction of categories from forms of judgment is a four-step process. First, manifold of sense impression has to be structured and determined in order to become an object of thought. This needs regulation. This requires a correct synthesis of concepts into coherent linguistic structures, most notably the subject- predicate form. The a priori capacities of judging as soon as the content of sentences are dispensed with. Here symbols can replace the concrete concepts. The remaining structures are concepts of pure judgment, which correspond directly to structures of formal logic. These structures constitute pure understanding. Categories also constitute pure understanding. Therefore, *a priori* judgments and concepts correspond directly to each other. Establishment of this link constitutes the second step. Hence, each category corresponds to a form judgment. Therefore, the list of categories can be derived from logical forms. The extraction of the table of judgments constitutes the third step. According to Kant, there are four classes of judgments. These are also called points of view. Each class has three forms of judgment. This gives twelve forms of judgments. The first class of judgments is quantity. It is comprised of three forms: universal (every man is mortal), particular (some men are mortal), and singular (Kant is mortal). The second class is quality. It consists of three forms: affirmative (man is mortal), negative (man is not mortal), infinite or limitative (the soul is non-mortal). The third point of view is that of relation. It is comprised of categorical (there is perfect justice), hypothetical (if there is perfect justice, then the obstinately wicked are punished), disjunctive (the world exists either through chance, or necessity). The fourth point of view is that of modality. It consists of three forms: the assertoric is existence-nonexistence, problematic is possibility-impossibility, and apodeictically is necessity-contingency. In the fourth step of his

[156] *Ibid*., A, 79, B 104-05.

metaphysical deduction, Kant assigns a category to each form of judgment. Therefore, there are twelve a priori concepts and forms of thought. The following table tries to illuminate the relationship between the judgments and categories:

	Judgments	**Categories**
Quantity	Universal	Unity
	Particular	Plurality
	Singular	Totality
Quality	Affirmative	Reality
	Negative	Negation
	Infinite	Limitation
Relation	Categorical	Substance (inherence and subsistence)
	Hypothetical	Cause (causality and dependence)
	Disjunctive	Interaction (reciprocity b/w agent-patient)
Modality	Problematic	Possibility—Impossibility
	Assertoric	Existence—Nonexistence
	Apodeictic	Necessity—Contingency

Kant took over the distinction between different kinds of judgments from Aristotelian logic and he derived the categories from the judgments. The categories are tools to understand and cope with the world. These are indispensable concepts of understanding.

In the metaphysical deduction of categories, Kant proposed that the categories are indispensable nuclei of understanding. Transcendental deduction deals with the relationship and application of categories to intuitions. It proposes that without the concept of categories, we could not understand nor conceptualize the fragmentary and disordered material and the forms of intuitions and experience. In fact, there would be no experience. In broader sense, the transcendental deduction deals with the indispensable notion that it is a self, who knows the world and objects. In other words, it is a self, who judges the object of the world.

Three elements are involved in the conceptualization of experience. First, there is the structuring of intuitions in time and space. Secondly, it is the unification of intuitions under one consciousness. Thirdly, it is the ability to organize all the intuitions into concepts of categories. We can formalize Kant's transcendental deduction as follows:

1) All experience is comprised of the content, which is supplied by sensory data.
2) These sensory data can be formed into a perceived experience, only if they united for a consciousness.
3) As a result, the unity of experience entails the unity of consciousness and self.
4) However, the unity of self is an object of experience as well. Here, Kant is referring to empirical self as opposed to transcendental self or the transcendental unit of apperception.
5) Consequently, the experience of self and objects is based on a previous act of synthesis, which are not subject of experience themselves.
6) Kant maintains that this previous function of synthesis is performed by the categories.

The prerequisite to all these, as we have alluded, is the possibility of self-consciousness. The manifold representations, which are given in an intuition, would not be all my representations, if they did not belong to one self-consciousness. As I sit here and type these words, there is a sharp pain traveling through my head. However, there is no doubt that this pain is mine. I have no doubt that the thoughts rushing through my mind are mine. I have no doubt that the struggle to find the right words is mine. It does not feel as if there is pain in this room and I cannot locate its owner. I have no doubt that I am the owner of my experience. Where does this knowledge come from? I cannot arrive at this knowledge by inspecting the items of my experience. There is nothing in the sense data that would make this knowledge possible for me. In fact, all my experiences presuppose this ownership of my experience. Without this unity of apperception, I could not have any experiences at all. The knowledge of ownership of my experiences is not a posteriori, since it is presupposed by experience. Hence, it is a priori knowledge.

> "We have stated above that appearance are themselves nothing but sensible representation, which, as such and in themselves, must not be taken as objects capable of existing outside our power of representation. What, then, is to be understood when we speak of an object corresponding to, and consequently also distinct from, our knowledge? It is easily seen that this object must be thought only as something in general = x, since outside our knowledge we have nothing which we could set over against this knowledge as corresponding to it. Now we find that our thoughts of the relation of all knowledge to its object carries with it an element of necessity; the object is viewed as that which prevents our modes of

knowledge from being haphazard or arbitrary, and which determines them *a priori* in some definite fashion. For in so far as they are to relate to an object, they must necessarily agree with one another, that is, must possess that unity which constitutes the concept of an object. But it is clear that, since we have to deal only with the manifold of our representations, and since that x (the object) which corresponds to them is nothing us—being, as it is, something that has to be distinct from all our representations—the unity which the object makes necessary can be nothing else than the formal unity of consciousness in the synthesis of the manifold of representations. It is only when we have thus produced synthetic unity in the manifold of intuition that we are in a position to say that we know the object. But this unity is impossible if the intuition cannot be generated in accordance with a rule by means of such a function of synthesis as makes the production of the manifold a priori necessary, and renders possible concept in which it is united…

All knowledge demands a concept, though that concept may, indeed, be quite imperfect or obscure. But a concept is always, as regards its form, something universal which serves as a rule…

All necessity, without exception, is grounded in a transcendental condition. There must, therefore, be a transcendental ground for the unity of consciousness in the synthesis of the manifold of all our intuitions, and consequently also of the concepts of objects in general, and so of all objects of experience, a ground without which it would be impossible to think any objects for our intuitions; for this object is no more than that something, the concept of which expresses such as necessity of synthesis".[157]

Kant assigned the role of transcendental unity of apperception to transcendental consciousness. This unity of consciousness accounts for the ownership of experience. The ownership of experience is not subject to dispute. The empirical investigation might reveal the content of consciousness, but not its ownership. Apperception refers to all experience of which the subject is able to say' this is mine'. Therefore, apperception is the foundation of self-consciousness and perceptive consciousness. Kant described it as the 'I think' that can be attached to all perceptual experience. It is the awareness that the perceptual experience belongs to me. Unity of apperception defines my point of view. Kant states: "it must be possible for the 'I think' to accompany all my representations; for otherwise something would be represented in me which could not be thought at all, and that is equivalent to

[157] *Ibid*., A 104-06.

saying that the representation would be impossible, or at least would be nothing to me. That representation which can be given prior to all thought is entitled intuition. All the manifold of intuition has, therefore, a necessary relation to the 'I think' in the same subject in which this manifold is found".[158]

> "There can be in us no modes of knowledge, no connections or unity of one mode of knowledge with another, without unity of consciousness which precedes all data of intuitions, and by relations to which representation of objects is alone possible. This pure original unchangeable consciousness I shall name transcendental consciousness…
> This transcendental unity of apperception forms out of all possible appearances, which can stand alongside one another in one experience, a connection of all these representations according to laws. For this unity of consciousness would be impossible if the mind in knowledge of manifold could not become conscious of the identity of function whereby it synthetically combines into one knowledge. The original and necessary consciousness of the identity of self is thus at the same time a consciousness of an equally necessary unity of the synthesis of all appearances according to concepts, that is, according to rules, which not only make them necessarily reproducible but also in so doing determine an object for their intuition, that is, the concept of something wherein they are necessarily interconnected…"[159]

There is never a doubt about the ownership of my experience. A doubt in the unity of apperception would mean that I stop having self-consciousness and empirical experience.

In the Aesthetic, Kant asserts that the self is known only as appearance. This means that through inner sense I identify myself in terms of temporal, empirical objects. In this respect, Kant follows Hume's example, when he states: "no fixed and abiding self can present itself in this flux of inner experience".[160] Furthermore, "the empirical consciousness, which accompanies different representations, is in itself diverse and without relation to the identity of subject."[161]

However, Kant, in contrast Hume, maintains that this cannot be the whole story. Exactly, for the reason that the self cannot be given empirically, there must be a priori

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[158] Kant, I., (1929) *Critique Of Pure Reason*, translated N. Kemp-Smith, Macmillan, pp. 131-132.
[159] *Ibid*., A 107-08, 111, B 164-65.
[160] Kant, *Critique Of Pure Reason*, A 107.
[161] Kant, *Critique Of Pure Reason*, A 133.

transcendental unity of apperception, which is "pure original unchangeable consciousness".[162]

Consequently, as we pointed out above, it is necessary, with respect to all representations, which qualify as *mine* that they assigned to one single subject. In other words, it "has necessarily to be represented as numerically identical".[163] In B deduction presents the same idea of the requirement of transcendental apperception under a different formulation:

> "It must be possible for the 'I think' to accompany all my representations;
> For otherwise something would be represented in me which could not be thought at all, and that is equivalent to saying that the representation would be impossible, or at least would be nothing to me."[164]

Kant does not claim that each of my representations must be actually attended by the consideration that it is mine. It is not also required that all my representations be thought in one grand comprehension encompassing the totality of my experience. What is required is that just each of my representations must be such that it is possible for me to recognize them as mine in any feat of contemplation. This condition can be met only through an unchanging, a priori representation devoid of empirical content; "otherwise I should have as many colored and diverse a self as I have representations that I am conscious."[165] Consequently, transcendental apperception cannot be identified with the cognition of anything that can be brought under the concept of substance or *res cogitans*. Transcendental apperception is consciousness of mental states. Hence, it provides the ground of our representation of ourselves as spontaneous. Moreover, apperception "is something real".[166] Apperception is "something which actually exists".[167] However, we have no *concept* of apperception. According to Kant, it cannot even be brought under the

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[162] Kant, *Critique Of Pure Reason*, A 107.
[163] Kant, *Critique Of Pure Reason*, A 107.
[164] Kant, *Critique Of Pure Reason*, B 131-132.
[165] Kant, *Critique Of Pure Reason*, B 134.
[166] Kant, *Critique Of Pure Reason*, B 419.
[167] Kant, *Critique Of Pure Reason*, B 423n.

category of existence.[168] Apperception gives us a sense or feeling of existence without the concept thereof: "we cannot even say that this is a concept."[169]

Now, for Kant, this amounts to neither knowledge of transcendental consciousness, nor an intuition of apperceptive consciousness. However, this is where we differ from Kant. According to our theory, this feature of apperceptive consciousness is the manifestation of *intellectual intuition*. Kant rejects the possibility of such faculty for human beings and believes only God would have intellectual intuition. However, we maintain that without intellectual intuition the notion of self becomes an illusion of faculty of reason. Kant shows this clearly in the Dialectic. For Kant all knowledge is subsuming of sense data under categories of understanding. However, apperceptive consciousness can be subsumed under neither sense data, since it is not perceivable, as Hume showed us, nor any categories of understanding including existence. Hence, it is not knowable, but we have a *feeling* for it. For us, this feeling is nothing other than intellectual intuition. The question is what is intellectual intuition.

For a subject capable of intellectual intuition, the act of thinking and being presented with an object are one and the same event. In other words, the same presentation in the subject would perform both functions. This means that the same faculty that thinks objects also intuits them. There is need for sense data in this mode of knowledge, since to think of an object is also to be presented with it. Furthermore, there is no need for application of concepts, because the object would be grasped immediately in its full individuality. This is exactly how the knowledge of ownership of experience is presented to us. Hence, we know appercetive consciousness through intellectual intuition. Alternatively, transcendental consciousness presents itself through intellectual consciousness.

Furthermore, the distinction between the actual and the possible is abandoned by intellectual intuition, since such differentiation is a function of discursive cognition in general. A further implication of intellectual intuition is the dissolution of act of knowing and creation. Hence, intellectual intuition is the foundation of creativity and imagination. Another feature of transcendental apperception is that it is not only represents the principle of unity, but also identity. Kant states, "numerical identity is inseparable from it, and is a

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[168] Kant, *Critique Of Pure Reason*, B423n.
[169] Kant, *Critique Of Pure Reason*, A 346/B 404.

priori certain".[170] This means that the condition of apperception is that all representations and mental states be related to something that represents itself as identical in relation to them.

Apperception is the awareness that the perceptual experience belongs to me. Consequently, unity of apperception defines one's point of view. There is never a doubt about the ownership of my experience, as emphasized above. A doubt in the unity of apperception would mean that I stop having self-consciousness. The point of transcendental deduction is to show that the unity of consciousness is only possible in an objective world. The transcendental unity of apperception is only possible if the categories of understanding describe an objective world. This does not require an understanding of things-in-themselves, but an understanding of things as they appear. This idea ties the notion of subjectivity with the idea of objective truth. Here, the task is to prove the existence of an independent entity, in which my point of view is manifested. In other words, if it can be shown that the pure concepts of understanding are sufficient foundation for me to utter 'I know that this is a pen', then the 'I' of that statement and the concepts I use to speak that judgment are necessary, *a priori* foundation that experience is possible. If Kant is successful at this, he makes the skeptical question absurd.

> "The deduction is the exposition of the pure concepts of the understanding, and therewith of all theoretical a priori knowledge, as principles of the possibility of experience—the principles being here taken as the determination of appearances in space and time in general and this determination, in turn, as ultimately following from the original synthetic unity of apperception, as the form of the understanding in its relation to space and time, the original forms of sensibility".[171]

Consequently, the transcendental deduction is based on the proof that the categories are the necessary condition of all experience. The cornerstone of the transcendental deduction is that the transcendental unity of apperception is necessary condition of all experience. Hence, the argument goes as follows: 1) the transcendental unity of apperception is the necessary condition of all experience; 2) this entails that experience is comprised of judgments; 3) all judgments require form; hence, the necessary conditions of experience are the forms of judgment.

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[170] Kant, *Critique Of Pure Reason*, A 113.
[171] Kant, *Critique*. p. 175.

In order to introduce his notion of subjectivity, Kant introduces the section on refutation of idealism. The point, here, is that we have experience of the world. We do not imagine the world. The crux of this argument is that inner experience is possible only on the assumption of outer experience. There are three major thoughts that are present in the refutation. The proof of refutation is the proof for objectivity.

First, identification of experience. We do not observe our experience but we observe objects of our experience. The knowledge of experience, therefore, constitutes knowledge of its objects. This knowledge is not possible unless the objects can be recognized as continuous in time. However, continuity in time is only possible if the object exists even if it is not observed. Therefore, there exists independent world of my observation, and it has an objective truth.

Second, identity of the subject through time. I can characterize my experience as mine only if I can identify my experience in time. I have to be a subject who endures in time. Duration in time requires continuity in time. My continuity in time is only possible if I am a substance. Substantiality requires causality. This means that there must be causal link between my past, present, and future. Duration requires causality. Therefore, consciousness of experience requires a causal relationship with a world that is accurately described by the categories. In other words, there can be no self-consciousness without an objective world.

Third, experience can be ordered in time. If I can know my present experience, I have to be able to distinguish it past and present. Reality of time is presupposed in my experience and an objective world, in which I can observe change and to which my experience is referred, presupposes the reality of time.

The common motif in all these thoughts is movement from unity of consciousness to identity and the possibility of identity only with respect to an objective world. In the 20th century, Wittgenstein proposed a similar argument. In his private language argument, he proposes that knowledge of experience has to presuppose a public world. My experience is understandable to me immediately through concepts that get their meaning from the public world. The publicity of language guarantees the objectivity of its reference. The transcendental deduction contributes immensely to the philosophical discussion. It proves the objectivity of the world only by using our points of view in the world. We do not have

to find a perspectiveless stance to find objectivity. Our perspective is the proof for objectivity. Heidegger said it best when he said the scandal of philosophy is not that it fails to provide a proof for the objective world, but that such proof is required. Kant makes the world ours again.

At this point, it would be profitable to see what Kant proposes with respect to the categories of substance and causality. Kant agrees with Hume in that he too maintains that we can never experience substances. Neither, do we experience necessary connection—hence causality. However, here Kantian and Humean notions of causality and substantiality diverge. As mentioned previously, Hume assumes that we simulate necessary connections and substantiality. Kant, in contrast, maintains that causality and substantiality are a priori concepts of understanding. Consequently, permanence and regular sequence, or necessary connection, are mind's necessary and universal mode of generating experience for sentient being like us. Kant derives the categories of substance of causality and substance by arguing:

> " Experience is an empirical knowledge, that is, a knowledge which determines an object through perceptions. It is the synthesis of perceptions, not contained in perception but itself containing in one consciousness the synthetic unity of the manifold of perceptions. This synthetic unity constitutes the essential in any knowledge of objects of the senses, that is, in experience as distinguished from mere intuition of sensation of the senses. In experience, however, perception come together only in accidental order, so that no necessity determining their connection is or can be revealed in the perceptions themselves. For apprehension is only a placing together of the manifold of empirical intuition; and we can find in it no representation of any necessity which determines the appearance thus combined to have connected existence in space and time. But since experience is a knowledge of objects through perceptions, the relation (involved) in the existence of the manifold has to be represented in experience, not as it comes to be constructed in time but as it exists objectively in time. Since time, however, cannot itself be perceived, the determination of the existence of objects in time can take place only through their relation in time in general, and therefore only through concepts that connect them *a priori*. Since these always carry necessity with them, it follows that experience is only possible through a representation of necessary connection of perception.
>
> The three modes of time are duration, succession, and coexistence. There will, therefore, be three rules of all relations of appearance in time, and these rules will be prior to all

> experience, and indeed make it possible. By means of these rules the existence of every appearance can be determined in respect of the unity of all time."[172]

With respect to Substance Kant states:

> "…our apprehension of the manifold of appearance is always successive, and is therefore always changing. Through it alone we can never determine whether this manifold, as object of experience, is coexistent or successive. For such determination we require an underlying ground which exists at all times, that is, something abiding and permanent, of which all change and coexistence are only so many ways (modes of time) in which the permanent exists. And simultaneity and succession being the only relation in time, it follows that only in the permanent is the substratum of the empirical representation of time itself; in it alone is any determination of time possible…if we ascribe succession to time itself, we must think yet another time, in which the sequence would be possible. Only through the permanent does existence in different parts of the time-series acquire a magnitude which can be entitled duration. For in bare succession existence is always vanishing and recommencing, and never has the least magnitude. Without the permanent there is therefore the substratum of all determination of time, and, as likewise follows, is also the condition of the possibility of synthetic unity of perception, that is, of experience. All existence and all change in time have thus to be viewed as simply a mode of the existence of that remains and persists. In all appearances the permanent is the object itself, that is, substance as phenomenon; everywhere, on the other hand, which change belongs only to the way in which substance or substances exist, and therefore to their determinations…
> Permanence is thus a necessary condition under which alone appearances are determinable as things or objects in a possible experience."[173]

So for Kant, a substance is an experience of permanence of an intricate configuration of sensory data. Here, the configuration, and pattern, is permanent and not the content material. In fact, the content is constantly changing and dynamic. It follows that substantiality is a way that our minds shape our experience and there are no substances above and beyond that. Substances are relative permanent configurations of our experience. In other words, objects of the world are not necessarily substance, but our minds organize experience substantially.

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[172] *Ibid*., A 177, B 218-19.
[173] *Ibid*., A 182-89, B 225-32.

Kant holds the same view with respect to the idea causality. The mind orders the complexes of sensory data according to the rules of succession and this is experienced as objects being causes and effect to another. In other words, the notion of causality is necessarily true and the grounds for this necessity is the structure of the mind.

6.3 Analytic of Principles:[174]

Every principle corresponds to a category. Principles are rules for the objective employment of categories. Principles are *a priori* truths. Principles are *a priori* forms of judgments. Two aspects characterize them. One, they regulate thinking. Second, they tell us the structure of the intelligible world. In other words, if we hope to make sense of our world by thinking, then we have to use principles. Judgments constitute a third faculty of knowledge. Judgments classify and group manifold intuitions under concepts of understanding. In fact, judgments play an intermediary role between manifold intuitions and categories of concepts. The classification of intuitions under concepts is possible due to schemata. These are representative class of principles. Schemata mediate between intuitions and understanding, and they are produced by imagination. The role of schemata becomes clearer when one realizes that manifold intuitions are indeterminate and formless (not in temporal and spatial sense). Concepts give the intuitions determinacy and form. However, if we stopped at this point all language would be just occupied with analytic statements. No further claims could have been made, because faculty of knowledge would be present to apply connect and apply different concepts to each other. Schemata (principles) make this possible. It is important to clarify that schemata stand to principles as concepts to categories.

Without schemata, categories are abstractions, which have no relevance to the empirical world. This means that categories must be schematized, or given temporal version, in order that they can be applied to experience. For Kant, time act as an intermediary between the pure categories and appearance. Time is both *a priori* and sensible, since it is the *a priori* form of sensibility. Consequently, categories relate to experience as they establish the necessary temporal features of consciousness.

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[174] Beck, *Kant Selections*, pp. 115-120.

The principles are temporalized categories. Principles are necessary for experience, because they make the distinction between objective and subjective time possible. The principles, according to twelve categories, come in four groups of three:

1) Axioms of intuition: these principles correspond to the three categories of quantity: unity, plurality, and totality. The corresponding principles state that everything in space and time must be subsumed under the category of quantity. This means that the axioms of intuition have magnitude. This says that all experience is extended, meaning it is comprised of distinct parts.
2) The anticipations of perception: this principle corresponds to the category of quality: reality, limitation, and negation. This principle introduces the notion of degrees of quality. This implies that sensation has degree of magnitude expressed in relative and superlative.
3) The analogies: these principles correspond to the categories of relation: substance, cause, and reciprocity. They determine the connection between objects and events in the world. This claims that experience is possible only necessary connections are found among perceptions.
4) The postulates of empirical thought: these principles correspond to the category of modality: necessary, actual, and possible. "Something is actual if it connects with some actual perception in the accordance with the analogies".[175] As we will see, this entails that being actual does not require perception. Possibility, for Kant, is causal possibility and not logical possibility. In a similar manner, by necessary he means causal necessity and not logical necessity. At this point, let us explain the principles in more detail.

The analogies signify a relationship. Experience is signified by a necessary temporal combination. Analogies are identities of relationship of perceptions to each other. These relationships are because experience is build upon intuition. Perceptions can be combined in three different manners. They can be permanent, successive, and coexistive. These three possibilities produce three analogies: 1) permanence of substance, 2) succession in time according to concept of causality, and 3) coexistence based on the

[175] Kant, *Critique*, p. 225.

concept of reciprocity and community. Experience is possible through these necessary connections of perceptions.

The first analogy claims that time cannot be perceived. Here it is postulated that change can occur in respect to a background of permanence. Time is the duration of an experience, which cannot be supplied by experience itself. The notion that a substance is permanent is signified by this principle. Permanence of substance acts as reference point for change to occur. This puts permanence at a deeper level than appearance. Change is not in substance but at the level of appearance. This implies that there is no absolute change only relative change. This is clearly an attempt to illustrate the roots intelligibility of the law of conservation, which is one of the principal principles of physics.

The second analogy suggests that perception is successive. This means that our perception of an event is not comprised of disjointed intuitions, but there is an order to it that can be reversed. This reversibility suggests a causal connection between the fragments, which would be impossible without causation. This also implies that causation is prior to experience and a priori, since experience is ordered with it. With causality, temporal order is established.

The third analogy addresses coexistence. The idea of coexistence is impossible without causality. Only if we stand in a causal relationship with two entities, we can say they exist simultaneously. If they are in causal isolation from us, then we cannot make such claims. The analogies are designed to provide arguments against Humean empiricism.

This is the refutation of idealism of the variety proposed by Descartes and Berkley. The common thread in both kinds is the claim that the inner is better known than the outer and the outer objects are inferred from inner experiences. Kant's argument is as follows: we are aware of our changing mental states and therefore we are conscious of our existence in time. However, as argued in the first analogy the perception of change requires a perception of permanence. However, we are not the source of the perception of permanence. Therefore, its source has to be outer experience, which enables me to make judgments about the past. The boundaries of the empirical thought are determined by the category of modality. They determine possibility, actuality, and necessity. Stepping over the realm of these categories that are informed by intuitions leads to illusions in our knowledge of the empirical thought. For example, an affirmative proposition does not

imply existence. Having the ability to say God is great is to make an affirmative proposition from a qualitative category. It is not justified to conclude from the affirmative judgment the truth of a modal judgment such as God exists.

6.4 Transcendental Dialectic:

As we have seen, Kant makes a distinction between the phenomenal and the noumenal worlds. The phenomenal realm corresponds to empirical reality. Our knowledge of the world is limited to the empirical realm. We have no positive knowledge of the world, as it is itself, the noumenal world. We must assume the existence of the noumenal as a transcendental condition for the empirical world and our knowledge of the empirical world. In this respect, we can see that Kant's position is open to a similar criticism raised against Locke's representationalist theory of perception.

Kant's theory of perception has three entities: the knowing mind, the world of phenomena, and the world of the noumena that underlies the world of phenomena and it is its partial cause. The other cause of the phenomenal world is the contributions made by the knowing mind through the forms of intuition and the principles of understanding. The theory states that the knowing mind knows the world of phenomena, but it never knows the noumenal world. Hence, the knowing mind *cannot* know anything about the noumenal world. The question arises that how, then, the knowing mind can know that the noumenal world exists at all, or that it has the property of underlying or being the cause of the phenomenal world. Kant claims that we know the noumenal through our moral experience of autonomy and freedom. However, moral experience does not in itself does not inform us that reality is comprised of noumena. This information is obtained through our interpretation of moral experience, and this interpretation is the function of understanding.

In the transcendental dialectic, Kant maintains that the application of the categories of understanding to the things-in-themselves leads to illusion and emergence of questions that the pure reason can raise but never appropriately answer. The three main cases of such mistaken usage of pure reason, called antinomies, are God, being-in-general, and Self—empirical self. It is not that there is no God, being-in-general, or Self—according to Kant. But the derivation of arguments and application of the categories of the understanding to prove these is at best misguided. The existence of God, being-in-general, and the Self

cannot be understood through speculation of the mind, but through the actions of an agent in a world in which he must act purposefully and meaningfully. Hence, the world of values and practical reason is the domain of these notions. With respect to the self, Kant states:

> "…since the proposition "I think (taken problematically) contains the form of each and every judgment and accompanies all categories as their vehicle, it is evident that the inferences from it admit only of a transcendental employment of the understanding…We therefore propose to follow it, with a critical eye, through all the predicament of pure psychology…
>
> (1) In all judgments I am the determining subject of that relation which constitutes the judgment. That the "I," that thinks, can be regarded always as subject, and as something which does not belong to thought as a mere predicate, must be granted. It is an apodeictic and indeed identical proposition; but it does not mean that I, as object, am for myself a self-subsistent being or substance…
>
> (2) That the "I" of apperception and therefore the "I" in every act of thought, is one, and cannot be resolved into a plurality of subjects, and consequently signifies a logically simple subject, is something already contained in very concept of thought…But this does not mean that the thinking "I" is a simple substance…
>
> The analysis, then, of the consciousness in thought in general, yields nothing whatsoever towards the knowledge of myself as object. The logical exposition of thought in general has been mistaken for a metaphysical determination of the object…"[176]

Kant's notion of self can be criticized by claiming that Kant bifurcates, in the same way he bifurcates reality, he divides the notion of self. Accordingly, there is the self of whom we become aware by introspection, the *phenomenal,* or the *empirical* self; there is also the *transcendental* self. The transcendental self is the source of moral experience of duty and autonomy and is a member of the real world. Both selves are known. The empirical self is known through introspection, while the transcendental self is known in moral experience. The empirical self makes us a member of the phenomenal realm, as the transcendental self makes the member of the noumenal world. However, the question is that what the relationship between the selves is. Kant asserts that the empirical self is a manifestation of the transcendental one. The result is that it leaves us with two selves,

[176] *Ibid*., B 406-11.

which are separated from each other and in some cases confront each other. One self is real and moral and the other is phenomenal and amoral. However, we are conscious of ourselves in moral experiences in the same way we are conscious of ourselves in any other kind of experience. It follows that it is inadmissible to introduce the bifurcation between moral experience and any other type of experience. Furthermore, according to Kant, the transcendental self determines and prescribes to the empirical self. In this capacity, the transcendental self produces causal effects upon the empirical self. Causal relation, however, belongs to the phenomenal world. Consequently, by virtue of the effects it produces in the phenomenal world, the transcendental self loses its property of being purely real and purely transcendental. The above objections arise from internal inconsistencies in the Kantian view. However, Kant's treatment of the apperceptive aspect of consciousness and the function thereof is of invaluable service to our understanding of the nature of consciousness. This proves that consciousness is not causally ineffective as it is claimed by epiphenomenalism, as we shall see. Moreover, also proves that substantiality and causality must be treated as principle of our understanding and not necessarily the nature of the world in itself.

6.5 The Bergsonian Critique:

The Kantian notion of unattainable reality in itself prompted criticism from its inception particularly in the philosophies of Hegel, Schopenhauer, and Bergson. Hegel based his critic on idea that Kant presents an incomplete notion of rationality itself. He assumed, as we shall see later, that rationality itself is a process of unfolding, which is characterized by conflict and final consolidation of seemingly contradictory and opposing aspects of reality, a triadic movement from thesis to antithesis to synthesis—the dialectic process. The dialectic process is not just a hallmark of rationality itself, but it is the foundation of reality. Hence, reality is rational.

Bergson begins his project by agreeing with Kant that rationality as such is not capable to comprehend the world beyond its own categories and constructions. However, he disagrees with Kant that such capacity is fundamentally impossible. Kant's rejection of such possibility was a consequence of his cognitive theory in that he assigned to intuition a purely sensible role and rejected the notion of intellectual intuition for humans. Again, he

does not reject the possibility intellectual intuition, but the possibility that it can be part of our cognitive furniture. Intellectual intuition, according to Kant, is a divine capacity. This is exactly the diverging point for Bergson. According to him, intellectual intuition is part of our cognitive machinery. It is in fact our window into reality itself—as duration. Hence, the true objective of metaphysics is to explore the scope of this intuition, which goes beyond discursive reasoning, because reality transcends conceptual understanding.

> "Metaphysics…is only truly itself when it goes beyond concept, or at least when it frees itself from rigid and ready-made concepts in order to create a kind very different from those we habitually use; I mean supple, mobile, and almost fluid representations, always ready to mould themselves on the fleeting forms of intuition…
>
> Concepts…generally go together in couples and represent two contraries. There is hardly any concrete reality which cannot be observed from two opposing standpoints, which cannot consequently be subsumed under two antagonistic concepts (for example, the self is both a unity and multiplicity). Hence a thesis and antithesis which we endeavor in vain to reconcile logically, for the very simple reason that it is impossible, with concepts and observations taken from outside points of view, to make a thing. But from the object, seized by intuition, we pass easily in many cases to the contrary concepts; and as in that way thesis and antithesis can be seen to spring from reality, we grasp at the same time the two are opposed and how they are reconciled." [177]

As we can see, Bergson does accept the Hegelian notion as a triadic movement of thesis-antithesis-synthesis. Bergson, however, maintains that rationality can pose the contradiction but it cannot resolve the contradiction, as Hegel envisioned. The resolution of the contradiction—thesis-antithesis—requires a different faculty, which cannot incorporate and resolve the contradiction at once—namely intellectual intuition.

So, the question is what does intuition reveal to us. In other words, what is the nature of reality? The interesting aspect of this position is that in order for us to understand the nature of reality we must look within. What intuition there reveals is, according to Bergson, duration, change, dynamics, and life. In other words, this is not just an experience

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[177] Bergson, H., (1912), *An Introduction to Metaphysics*, translated by Hulme, T. E., Putnam, New York, pp. 1-19.

of changing states in time, but an experience of change itself. This is an experience of flowing time.

> "I find, first of all, that I pass from state to state, I am warm or cold, I am merry or sad, I work or I do nothing, I look at what is around me or I think of something else…I change then, without ceasing. But this is not saying enough. Change is far more radical than we are at first inclined to suppose.
>
> …Duration is the continuous progress of the past which gnaws into the future and which swells as it advances. And as the past grows without ceasing, so also there is no limit to its preservation…In its entirety, probably, it follows us at every instant; all that we have felt, thought and willed from our earliest infancy is there, leaning over the present which about to join it, pressing against the portals of consciousness that would fain leave it outside. The cerebral mechanism is arranged just so as to drive back into the unconscious almost the whole of this past, and to admit beyond the threshold only that which can cast light on the present situation or further the action now being prepared—in short, only that which can useful work. At the most, a few superfluous recollection may succeed in smuggling themselves through the half-open door. These memories, messengers from the unconscious, remind us of what we are dragging behind us unawares…Doubtless we think with only a small part of our past, but it is with our entire past, including the original bent of our soul, that we desire, will and act." [178]

So, we can deduce that Bergson consider the nature of reality as well as self as duration, or process. Moreover, this process—duration—is creative and efficacious. In fact, for Bergson the driving force of evolution lies not in the survival of species but in creation of new forms. Here, Bergson combines an empirical claim with a metaphysical statement. That species evolve is an empirical assertion, but the claim that the underlying reality thereof is a process or duration is an ontological statement. We could claim that this is a weakness of this theory. However, all empirical theories such as physics are based on some fundamental ontological presuppositions, which are not presented in every formulation of these theories, but they are there as the foundation of these theories. Take the notions of randomness, force, energy, causality etc. These are ubiquitous in any empirical theory. For instance, the theory of Darwinian evolution does not prove the randomness of emergence of variability

[178] *Ibid*., pp. 21, 39-40.

through genetic mutation, among other mechanism. It simply assumes it. The presence of ontological commitments does not weaken an empirical theory. It, however, highlights the importance to bring our *ontological house* in order.

Another of our peeves against Kant was that he introduces a gap between pure reason and practical reason. Hence, he separates our capacities as spectator of the world and agents who act in articulation of the world. The starting point of understanding consciousness must always be, according to processual point of view, the acting agent. In fact, understanding of cognition must begin from action of an embodied agent in a specific environment. This holds for us as well as the simplest cell as an information processing entity.

> "Between mobility and consciousness there is an obvious relationship. No doubt, the consciousness of higher organisms seem bound up with certain cerebral arrangements…but…it would be as absurd to refuse consciousness to an animal because it has no brain as to declare it incapable of nourishing itself because it has no stomach…Even the humblest organism is conscious in proportion to its power to move freely." [179]

This does not minimize the importance of nervous system. It claims that the evolution of a nervous system is also a product of an evolutionary strategy to move more freely and choose in order to defend oneself and procreate. Hence, greater mobility led to emergence of higher levels of consciousness. The emergence of the highest levels of consciousness occurs in intelligent animals, since here intelligence offers the organism the most options to act. This means that animal has the option to explore various alternatives. Consequently, consciousness in its highest manifestations presents itself always as choice and vacillation.

> "Consciousness is the light that plays around the zone of possible actions or potential activity which surrounds the action really performed by the living being. It signifies hesitation or choice. where many equally possible actions are indicated without there being any real action (as in deliberation that has not come to an end), consciousness is intense. Where the action performed is the only action possible (as in activity of the somnambulistic or more generally automatic kind), consciousness is reduced to nothing…From this point of view, the consciousness of a living being may be defined as an arithmetical difference

[179] *Ibid*., pp 109-11.

between potential and the real activity. It measures the interval between representation and action." [180]

And what is the role intelligence? Well, the role intellect is to create tools to actualize some potential in contrast to some others based on the needs of the organism in its environment. This distinguishes intellect from instincts.

> "The normal work of the intellect is far from being disinterested. We do not aim generally at knowledge for the sake of knowledge, but in order to take sides, to draw profit—in short, to satisfy an interest…To try to fit a concept of an object is simply to ask what we can do with the object, and what it can do for us. To label an object with a certain concept is to mark in precise terms the kind of action or attitude the object should suggest to us…" [181]

This function of intellect in a community of individuals, who need to communicate and learn from each other, presents itself in form of language. Hence, language is a manifestation of intellect. Language does not have to be only the human mode of communication. Any form of communal exchange of information can be considered language. This practical role of intellect is ultimately its limitation in understanding the metaphysical truths and inner nature of beings. Intellect is interested in manipulation to satisfy the needs of the agent.

> "There are two profoundly different ways of knowing a thing. The first implies that we move round the object; the second that we enter into it. The first depends on the point of view at which we are placed and on the symbols by which we express ourselves. The second neither depends on a point of view nor relies on any symbol. The first kind of knowledge my be said to stop at the relative; the second, in those cases where it is possible, to attain the absolute…
>
> It from this that an absolute could only be given in an intuition, whilst everything else falls within the province of analysis. By intuition is meant the kind of intellectual sympathy by which one places oneself within an object in order to coincide with what is unique in it and consequently inexpressible. Analysis, on the contrary, is the operation which reduces the object to elements already known, that is, to elements common both to it and other objects. To analyze, therefore, is to express a thing as a function of something other than itself. All

[180] *Ibid*., pp. 144-45.
[181] *Ibid*., pp. 40-43.

> analysis is thus a translation, a development into symbols, a representation taken from successive points of view…It goes on, therefore, to infinity. But intuition, if intuition is possible, is a simple act…
> The inner life is all this at once: variety of qualities, continuity of progress, and unity of direction. It cannot be represented by… concepts, that is by abstract, general, or simple ideas…Concepts…have the disadvantage of being in reality symbols substituted for the object they symbolize…" [182]

So, as we can see the role intellect is intimately linked to practical concern of the individual. Hence, intellect takes the form of hypothetical reasoning: If X, then Y. According to Bergson, a type of substantive reasoning—which gets to the core—is principally beyond the capacity of intellect. That is the function of intuition—intellectual intuition.

[182] Ibid., pp 1-19.

Chapter Seven

An Existential Phenomenological Challenge

The question of the nature of self and personal identity is one of the perplexing enigmas of philosophical discourse. This confusion is the result of a specific view of consciousness and its relations in the world. However, few philosophical traditions have attempted to change the attitude of the inquiring mind. Instead, most attention and effort has been spent to unravel the enigma. This seems futile since the consciousness that is the source of the problem is asked to solve the problem.

The traditional concept of consciousness is based on four assumptions.[183] First, the notion of consciousness is intimately linked to, and in fact inseparable from, the idea of the inner as opposed to the outer. Hence, it is deeply rooted in Cartesian dualism. Second, the idea of consciousness is related to the idea of representation, which is the subject picturing the object. Third, the concept of consciousness is based upon a conception of time as the present, and failing to notice the importance of past and future. Fourth, the traditional notion of consciousness and self is based on substance ontology. We reject these assumptions and suggest the importance of human existence as process as opposed to being a substantial subject, for which the world is an object. In contrast to traditional idea of consciousness, which is substantial subject, in whom the world is represented. Being in the world is tied to the world through *care* and *concern*. In traditional idea of consciousness, the subject is constantly present to itself. However, human existence is constantly ahead of itself in its projects and ultimately toward death.

7.1 A Paradigm of Perception:

We can use the case of perception of a cube as the paradigmatic case of perceptive consciousness. When we look at a cube, we can observe the cube from one particular perspective. This means that from any one instance, only one perspective is available to me and I am barred from perceiving the other perspectives. However, this does not mean that I cannot experience the other sides of the cube. In fact, I do experience the hidden sides of

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[183] Raymond, D., *Existentialism and the Philosophical Tradition*, Prentice Hall Publishing, 1991.

the cube in that I co-intend the other sides that are hidden as potentially visible but actually absent aspects of the cube. This means that the hidden sides are given, but given as absent. The absent, or hidden, sides constitute my experience as much as the present, or the revealed, sides. Consequently, my act of perception is comprised of an intended present part and an intended absent part. So, the act of perception is a blend of filled and empty intentionality.[184]

Fig. 7.1: Gestalt images (www.noologie.de)

Another fact about my perception of the cube is that it is dynamic and not static. This means that I know I can walk around the cube or move the cube in such a way that previously absent sides become apparent and vice versa. This implies that the dynamism of my perception guarantees that the potentially perceived becomes actually perceived and the actually perceived slips into absence.

So far, we have talked about the presence or absence of *sides* of the cube. However, we can take our analysis a step further. Note that if I move each side in a different angle, then the rectangular side will be perceived as a trapezoid. Consequently, we can say that each side has also different aspects. This is also a function of dynamism of perception. Moreover, I can separate each aspect temporally and take snap shots of each aspect at different times. So, each aspect can be perceived as different *profiles*. Consequently, we can define a profile as a temporarily individuated presentation of an object.

Another important factor is that my perception will also be informed by my disposition and mood at any moment. If I am dizzy, I will have a different perspective from being elated. Hence, the profiles can be influenced by the physiological status as well.

[184] Sokolowski, R., (2000) *Introduction to Phenomenology*, Cambridge University Press.

However, it is important to realize that relativity and subjectivity of my perception of my perception refers to my perception of the cube and not the actual sides of the cube.

At this point, the pressing question is of what does the identity of the cube consist. It seems self-evident that when I experience various aspects of the cube from various angles and through various profiles, I perceive all these manifolds as belonging to one and the same cube. There seems to be a continuity persisting through the manifold. However, it would seem misguided to say that the cube is the sum of all its profiles. The identity of the cube, it seems, belongs to a different dimension from the sides, the aspects, and the profiles, but it is manifest as the identity in the sides, the aspects, and the profiles. As I move around the cube, the continuous flow of profiles is unified by being *of* the single cube. This means that consciousness is *of* something in the sense that it *intends* the identity of the object. This is much more than a mere flow of appearance that is presented to it. Hence, identity belongs to what is given in experience and recognition of identity belongs to the intentional structure of experience. This does not claim infallibility of the intentional act. In fact, we can intend presence and absence and we can be mistaken about it.

One implication of our analysis is that our experience of all phenomenal objects needs a three-layered treatment. Each phenomenal object and the experience thereof needs to be analyzed in terms: 1) parts and whole, 2) presence and absence and the identity between them, and 3) identity in manifolds.

For Merleau-Ponty, perception is not simply a cognitive event.[185] In a foundational way perception, which is a function of perceptive consciousness, is preconscious or apperceptive. Perception is also holistic. Phenomenal realities come to us as meaningful wholes or *Gestalten*—as phenomenal fields. This phenomenal field is composed of a background and a foreground of meaning and significance for us. The meaning and significance can be shifted between background and foreground through our own willed shifts of attention and self-consciousness.

Merleau-Ponty uses the notion of *intentional arc* to describe perception.[186] In an intentional arc our intellectual and perceptive experiences presuppose the possibility of pointing our consciousness into different directions. He uses the metaphor of a projector or

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[185] Sokolowski, *Introduction to Phenomenology*.
[186] *Ibid*.

searchlight to illustrate this point. Moreover, we have the ability to train our *projectors* in all directions, inside and out, to situate ourselves in the world. This is called *motility*, which accounts for the dynamism of perception. We will see that this is compatible with the global workspace theory of Baars. Merleau-Ponty states:

> "Beneath intelligence as beneath perception, we discover a more fundamental function, a vector mobile in all directions like a 'searchlight', one through which we can direct ourselves towards anything, in or outside ourselves, and display a form of behavior in relation to that object. Yet the analogy of the searchlight is inadequate, since it presupposes given objects on to which the beam plays. Whereas, the nuclear function to which we refer, before bringing objects to our sight as knowledge, makes them exist in a more intimate sense, for us. Let us, therefore, say rather, borrowing a term from other works, that the life—is subtended by an 'intentional arc' which projects about us our past, our future, our human setting, our physical, our ideological and moral situation, or rather which results in our being situated in all these respects. It is this intentional arc which brings about unity of senses, of intelligence, of sensibility, and motility." [187]

Accordingly, all our conscious experience and the very possibility of empirical self presupposes the intentional arc, which projects around us and places in the world. Consequently, we are centers of meaning. It is due to this intentional arc that we can have a continuous trail of meaning linking together the moment of our lives into an experienced unity. In other words, this is an overarching and meaning giving principle that connects the disconnected pieces of my life into a coherent narrative. The world becomes meaningful for us, insofar, as we become meaningfully situated among the objects of the world. This implies that phenomenal structures are not merely realities that independent of us, but they are bound to us as bestowers of meaning.

7.2 The Hegelian Background:

For Hegel, consciousness is the universal principle, which is the basis of the subjective and objective classifications of existence; consciousness directs their functioning. Consciousness comprises not only the internal mental states, but also it is

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[187] Merleau-Ponty, M., (1962) *Phenomenology of Perception*, translated Colin Smith, Routledge & Kegan Paul Press, New York, p. 135-136.

constitutive principle of the objective world. However, in the objective world consciousness is latent. The categories of thought are both the different forms through which we apprehend the world, they are the constitutive material of the world, and they reveal the working of the world process. Hegel notes: "to speak of thought or objective thought as the heart and soul of the world, may seem to be ascribing awareness to the things of nature. We feel certain repugnance against making thought the inward function of things, especially as we speak of thought as making the divergence of man from nature. It would be necessary, therefore, if we use the term thought at all, to speak of nature as the system of unconscious thought, or to use Schiller's expression, a petrified intelligence. In addition, in order to prevent misconception, thought-form or thought-type should be substituted for the ambiguous term thought…. If thought is the constituent substance of external things, it is also the universal substance of what is spiritual. In all human perception, thought is present; so too thought is the universal in all the acts of conception and recollection; in short, in every mental activity, in willing, wishing, and the like. All these faculties are only further specializations of thought. When it is present in this light, thought has a different part to play from what it has if we speak of a faculty of thought, one among a crowd of other faculties such as perception, conception and will, with which it stands on the same level. When it is seen to be the true universal of all that nature and mind contain, it extends its scope far beyond all these, and becomes the basis of everything."[188]

It seems like that thought, or consciousness, is the constitutive principle of all the subjective and objective orders of existence. Consciousness is an all-embracing unity. This is a unity within which all the differences, including the distinction between the subject and object and the knower and the known. It is important to note that Hegel does not refute the existence of matter. In other words, the ultimate nature of matter is consciousness; this does not deny the reality of matter as we experience it. For Hegel, matter is one aspect of reality. However, materialism takes matter to be the sole poise of reality. Therein lies the difference between Absolute idealism and materialism.

Thought, for Hegel, is conceived quite differently form the ordinary conception of the term. In the ordinary sense, thought is understood as solely analytic and abstract.

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[188] Hegel G. W, F., (1979) *Logic*, Vol. II, translated by W. H. Johnson and L. G. Struthers, Oxford University Press, 1958,
p. 46.

However, Hegel deems thought to be concrete, synthetic, and dynamic as well. The difference between two notions is that thought as solely static and analytic cannot reconcile the contradictions; it cannot realize the unity lying behind the world-process and comprising its essence. Hegel uses the term *Geist* to express his notion of thought and consciousness. For the speakers of the English language, the apprehension of this term is difficult, since there is no corresponding word that captures the full sense of *Geist*. In the German language, the term *Geist* has two distinct senses: one sense is that of mind, mental life, and consciousness; the other meaning is spirit such as *Zeitgeist* or 'the spirit of time'. However, Geist is not necessarily a ghostly and disembodied entity. Hegel uses the term in its sense of consciousness, but he expands the sense to include the dynamic, synthetic, and concrete qualities of it.

For Hegel, as we have seen, the main concern of philosophy in general and logic in particular is the possibility of genuine knowledge, which is not the knowledge of appearance of reality, but knowledge of reality itself. Hegel rejects the skeptical position as self-refuting. If we are supposed to doubt everything, then we should not spare the skeptical claim that we cannot know anything. The skeptical position starts from two presuppositions. First, skepticism assumes that there is a reality and knowledge is an instrument of apprehending that reality. Second, it presupposes that the subject is separate and distinct from reality. The obvious implication of these two assumptions is that knowledge and reality are cut off from each other. However, skepticism, paradoxically at the same time, takes the knowledge to be real and part of reality. The problem of skepticism is that it treats mind and knowledge as an instrument, which separates knowledge from reality as it is.

In order to understand reality, to know reality as it is, one must plunge into the stream of consciousness, which is the starting point of all knowledge. This can be done through an inspection of consciousness internally as it appears to itself. This is the phenomenology of consciousness. The starting point is not doubt, but it is a simple form of consciousness, which assumes itself to give genuine knowledge. However, this elementary form of consciousness does not yield genuine knowledge. Consequently, consciousness evolves into other forms until genuine knowledge is reached.

Fig. 7.2: Hegel, consciousness, and history (www.politeia-station.org)

Hegel starts with the most primal form of consciousness, called sense-certainty. This is the type of consciousness, which only grasps the object in front of it at any moment. Sense-consciousness picks up the material received from sense organs. Sense-consciousness represents the knowledge of the particular thing present to the sense organs. Sense-consciousness does not order or categorize the sense data. This means that this form of consciousness cannot name the data of experience as this or that specific object. Sense-consciousness is simply certainty of 'this' or of the 'here' and 'now'. Sense-consciousness is directly aware of 'this', without subsuming it under any conceptual scheme including space, time, or any other categories. Sense-consciousness is the awareness of the thing as it is. However, as soon as, sense-consciousness tries to articulate its knowledge, it becomes unintelligible. The 'this', 'now', and 'here' are incoherent terms. Consequently, sense-consciousness cannot convey any fact or truth. In fact, sense-consciousness cannot be expressed in language at all, since sense-consciousness is the awareness of the pure particular. On other hand, language concerns subsuming something under a general or a universal term. This implies that knowledge is impossible without universal concepts. Furthermore, this means that sense-consciousness does not constitute genuine knowledge.

One of the hallmarks of sense-consciousness is its passivity. This passivity is, in fact the reason why sense-consciousness can provide genuine knowledge. Hence, in the subsequent stages of the development of consciousness, it will become more active and dynamic. Every subsequent stage of evolution of consciousness is marked by a greater degree of activity than the previous one. Perceptual-consciousness follows sense-consciousness. At the stage of perceptual-consciousness, consciousness categorizes objects under universal properties. However, perceptual-consciousness does not provide genuine knowledge, since it cannot subsume experience under lawful and orderly patterns, which

makes the world intelligible, describable, and predictable. In other words, perceptual-consciousness cannot yield scientific knowledge of the world. Hence, consciousness evolves into a more dynamic and synthetic higher form.

The next stage in the evolution of consciousness is apprehending-consciousness. The apprehending-consciousness subsumes the raw material of experience under lawful relationships of scientific laws. At this level, for the first time consciousness reflects on its own abilities and contents. Through the scientific investigation, consciousness reflects on its own principles of understanding. Apprehending-consciousness signifies the emergence of self-consciousness. At this point, consciousness has itself for its object. This implies that consciousness can contemplate itself. Apprehending-consciousness represents latent self-consciousness.

For Hegel, self-consciousness cannot exist in isolation. In order for consciousness to produce an accurate image of itself, it an entity from which it can differentiate itself. Self-consciousness requires the other in order to know itself. While self-consciousness requires an external object, this object outside of itself is still something alien to it. Consequently, there is an attraction-repulsion attitude toward the outside object. This attraction/repulsion relationship manifests itself as desire. Desiring entails possession of the object of desire, but not to destroy it, while stripping the object the desire from all its foreignness. However, self-consciousness based on desire is plagued constantly by wanting, lack, and dissatisfaction. Hence, consciousness has to evolve into a higher form.

The next stage in the evolution of consciousness, according to Hegel, comes about in the attempt to be fully self-conscious. The ripe self-consciousness becomes possible when self-conscious being finds another self-conscious being. In other words, the ultimate self-consciousness is experienced through a relationship with another self-conscious being. This implies that self-consciousness can develop fully in a context of social interaction. In absence of social interaction, one would possess a mere perceptual consciousness. Self-consciousness is the product of social life.

Now the two self-conscious beings confront each other. Each being needs the other to establish his/her awareness of him/herself. What is required from the other being is a sense of acknowledgment and recognition. Essentially, one needs to be assured that others recognize one's personhood and the autonomy that comes with it. From a therapeutic

standpoint, the sense of worth of person needs to be recognized by those, on whom the person depends of self-identity, such as family members. If this recognition is denied, then the person will end up with a completely shattered sense of identity. This process of demanding recognition is not limited to the consciousness of individuals. Nations have the same need, in that a nation achieves legitimacy, only if it is recognized by other nations. History of humanity is full of instances, in which a nation goes to war to achieve that recognition from others through force. Another complementary path to achieve full self-consciousness is to give one's creativity a free reign. By transforming the world by the content of one's imagination, one achieves deep knowledge of who one is. Hence, creativity reveals one to oneself. For Hegel, freedom is the ultimate manifestation of full self-consciousness. Freedom is the ability to choose unforced by other people, by social forces, or by natural desire. However, freedom presupposes knowledge of these factors. The higher the level of knowledge is, the freer an individual is. This knowledge becomes only possible by the emergence of self-consciousness. Freedom is not the ability to do what one pleases; freedom consists of freedom of mind, and this is facilitated by self-consciousness. The last step f the evolution of consciousness is the realization of the universality of consciousness as the ultimate principle reality. At this level, self-consciousness is all-inclusive. At this stage, self-consciousness realizes the unity behind diversity and identifies itself with that principle. This is Absolute knowledge.

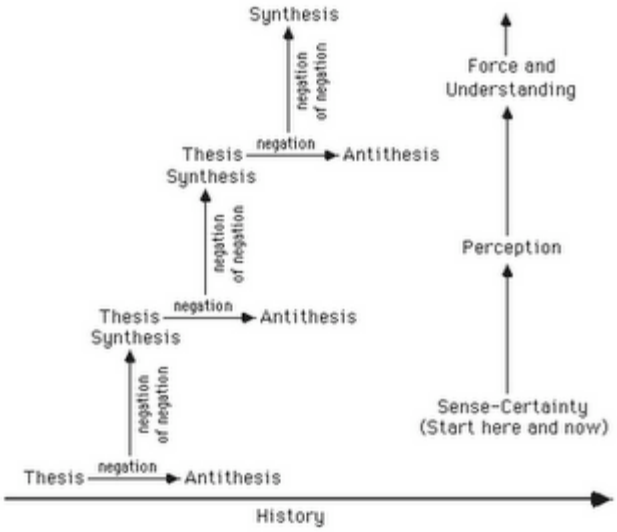

Fig. 7.3: History and the dialectical process (www.politeia-station.org)

For Hegel, the dialectical process also characterizes human existence, in that it involves a profound tension and conflict between opposing facets. Hegel distinguishes two aspects that comprise a human being. From one perspective, human beings are natural organisms among others in nature. They are members of the animal world with needs and desires similar to other animals. From another perspective, humans are different from animals. While lower animals are limited to the immediate needs and drives of their environment and cannot transcend those limits, the presence of self-consciousness in humans signifies a qualitative difference from other animal life. As Hegel notes: "Consciousness, however, is explicitly the notion of itself".[189] This implies that human beings have the ability to reflect on their lives and evaluate themselves in the light of some overarching principle and ideal. Here, consciousness introduces a fissure into the order of nature. Consciousness introduces the ability to retire from its own dealings in order to examine and question those dealings. In other words, consciousness transcends its own limits and since these limits belong to it, consciousness transcends its own self. Heidegger reiterates the same point of transcendence by claiming that our being is at issue for us. To be human is not just to be happy with simply fulfilling one's basic needs and desires. Humans care about what kind of beings they are. Consequently, humans reflect on the value of their desires in the light of their overarching ideals. Humans are able to have hopes and aspirations, which rise above their immediate needs and wants. Consequently, humans have the ability to create desires about their immediate desires and they can control their immediate responses in the light of higher goals and purposes. This implies that in our reflection on our immediate existence and the statement of requirements put forth by our immediate desires, we can say 'no' to our immediate tendencies. As a result, humans introduce a "not" into the order nature. Humans break with the mere factual *givenness* of their existence by *taking a stand on it*, which affects their active lives.

Self-consciousness introduces a rift in the human existence. Having the ability to take a stand on oneself creates the perpetual possibility of saying 'no' to all that has been and is. Consequently, according to Hegel, "consciousness suffers…violence at its own hands; it spoils its own limited satisfaction".[190] The rift created by self-consciousness leads

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[189] Hegel, G. W. F., (1979) *Phenomenology of Spirit*, trans. A.V. Miller, Oxford University Press, Oxford, paragraph 80.
[190] Hegel, *Phenomenology*, paragraph. 80.

to continuous desire to close up the rift by realizing the ideals introduced by self-reflection. As a result of this desire, life is experienced as an emptiness, which perpetually seeks to fill itself up. Hence, human existence "can find no peace"[191], since it is continuously disturbed ideals, which go beyond immediate needs and desires. Consequently, human existence is a tension between two facets of the self: the *in-itself*-- our given, natural aspect as finite and empirical beings—and the *for-itself,* the reflective aspect that leads humans to transcend their *givenness* by interpreting their dealings in the world. Hegel believes that this tension in consciousness between our immediate desires and ideals can be resolved through a rational dialectical process.

A further implication of looking at human existence as a struggle is that human existence is no longer a static thing, but it is an unfolding event or process. What defines the identity of a person is not an enduring set of properties persisting through time, but human identity is an event of becoming, in which the person struggles to find an answer to the conflict, which defines one's situation in the world.

Looking at human existence as an unfolding process means that human existence has a certain temporal structure. From a temporal perspective, human existence is not just persistence through a series of 'nows'. Human temporal existence has cumulativeness and purposefulness. This is the realization, which motivated Heidegger and the existentialist thinkers in their understanding of human existence. First, the unfolding process of human existence has a unique 'futural' quality. According to Hegel, humans are inexorably guided by a desire to be something and close up the rift at the core of their being. This desire continuously pushes humans into the future, moving toward the realization of those ideals, which define their transcendence. The future-orientedness of human existence also influences their interpretation of their past and present in relation to their ideals. The past and the present situation is a success or failure in the light of one's plans for the future.

Another fundamental characteristic of self-consciousness is *alienation*. Alienation begins with the consciousness' separation from itself; it's opposing itself to the world and nature. Alienation is a state of unhappiness caused by self-consciousness search for self-knowledge and freedom. According to Hegel, consciousness manifests itself in five

[191] *Ibid*.

different aspects, which in a dialectical process will eventually propel consciousness to a realization of its true nature as the foundation of all reality.

In one grim aspect of alienation, man contrasts him/herself as a spiritual being against nature. In this case, humans contrast themselves with their own bodies. This mode of alienation characterized the prevailing consciousness of the medieval and Christian ascetic mentality. Here, alienated from the natural world, people think themselves as immaterial souls. The animal functions become an embarrassment. Sensual longings pose a threat to one's real self, the soul. The threat of the demands of the body must be repelled by ascetic practices, self-flagellation, celibacy, etc. St. Augustine presents this consciousness when he pleads for chastity and continence, only not yet.

One implication of alienation from body is alienation from other humans as well. This is alienation from the other. This alienation is best described best in the 'master and slave' dialectic, when humans try to assert themselves, though futilely, through an attempt to enslave the freedom of the others. The alienation from others also leads to certain view of humanity as a heap of human atoms, independent from each other and lacking any sense of identification with the other.

The Age of Enlightenment signifies the advent of the world of *self-alienated spirit*.[192] Hegel supports the attempt of the *Age of Reason* to dispel the superstitions. However, he believes that those stories captured the important truth that the world is replete with meaning. Hegel claims that by treating the world as a mere mechanism, and value as something purely subjective, Enlightenment made the world a more rational place, but also a foreign place. Consequently, the world is a meaningless mechanism, which will evoke a sense of nihilism in humanity, as it was evident in the French Revolution.

Another consequence of the alienated consciousness from nature and itself is the sense that humans are mere perceivers and spectators of an objective reality; and they play no role in the articulation of that reality. The world becomes utterly other and one cannot help but feel at the mercy of forces unknown, unseen, and unintelligible. This mode of alienation does away with individual responsibility. Man becomes a victim of the world.

Finally, alienated humans are not capable of freedom. For Hegel, as we indicated, freedom is to be independent of anything outside of oneself. Furthermore, one is free only

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[192] Hegel, *Phenomenology*, pp. 294ff.

if one knows that one is free. Alienated person, however, feels that the world is dominating him/her. The alienated person constantly feels that he/she is at the mercy of nature or others. Hence, alienated humans cannot be free. In short, alienated humans feel divorced from their own bodies and from their fellow human beings. They regard the world as devoid of value and meaning, as a structure to which they are inessential, and as cogs in the machinery of the world. However, the darkness of the alienation is the springboard for the realization of freedom. This is the essence of the dialectical process and consciousness' attempt to know itself in this process is philosophy.

At this point, the question is whether the Hegelian system can fulfill its promise of the highest level of consciousness. Hegel's system use of rigid categorization puts limitation on reality. According to Hegel, reality is a closed and rigid system. In fact, Hegel is guilty of the same as formal logic. Formal logic is guilty of circumscription of reality within the extent of its principles. Hegel also limits reality within the confines of mental categories. Reality cannot be restricted to the mental categories regardless how significant, all-inclusive, and significant they are. Thought is too limited and limiting to be the ultimate principle of reality. The world-process is not adequately explained by thought. The problem is that Hegel applies the principles of thought *a priori* to the world-process. As a result, the facts about the world have to be twisted to fit the ready-made container of a system.

7.3 Human Existence as Being-in-the-World:

Western philosophical tradition, for the most part, has promoted a view of human beings as things or objects of a particular kind. The essence of a human being is considered either a body, or mind, or a combination of both. Human consciousness is considered as a thing or substance occupying a corner of the world. Consciousness stands in a causal relationship to other things. In other words, it is the principle of causality that relates consciousness to other things. This is best illustrated by Descartes' *cogito*, which relates contingently to *substantia cogitians*. This view holds that consciousness might have never been directed to its objects and consciousness and its objects are logically independent of each other.

Traditional philosophy, especially Cartesian and British empiricism, postulates a self-contained realm of consciousness. Here consciousness is analyzed in two ways. Either

consciousness is the ego and its *cogitations*, such as thoughts, perceptions, and sensory experiences, or consciousness is the label for the stream or the bundle of sensations and perceptions, as Hume believed it. However, these views of consciousness are inadequate and false, as we discussed before. Their shortcoming is in that they cannot explain the fact that it is of consciousness' nature and essence to be *of* objects. They cannot account for intentionality. Either, as in Descartes and Lock, they postulated that we make constant inferences from the cognitive life to the outside world, or, as in Hume, objects are treated as complex bundles of sensations that are inferred from those very experiences. Neither view is, however, faithful to our phenomenological experience that our experience of the world is holistic.

We do not experience the sense data and then make inferences about the world. We experience the world immediately. Furthermore, both views cannot account for our ability to conceive of enduring objects. As for Lock, the endurance of objects is necessarily outside of experience and for Hume there are no uniting criteria that can unite the bundles into an intelligible and holistic experience. How could bundles of sensations create the experience of what we call 'listening to music' or 'seeing a mountain in the distance' over a distinct period? The fact that this question is justified alludes to the fact that the traditional theories cannot account for the reflexivity, or qualia, of consciousness either.

A conscious act can, and should, be analyzed in terms of ego, *cogitatio*, and *cogitatum*. It is not that these are separate entities, which though inseparable from one another, we must analyze one at a time. The conscious act is a directed act, in which the consciousness intends an object. The directedness or intentionality is the essential feature of consciousness. The intentionality of consciousness is essential and fundamental because it cannot be reduced to any other feature of consciousness and neither can it be inferred from elements that are more fundamental. Intentionality cannot be inferred from the stream of sensations. Intentionality of conscious acts can explain the holistic nature of experience in that conscious acts have meaning by the virtue of intending an object. In other words, our consciousness of objects is mediated by meanings. Human existence is hopelessly semantic and as Merleau-Ponty claimed:" we are condemned to meaning".[193]

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[193] Raymond, D., (1991) *Existentialism And The Philosophical Tradition*, Prentice Hall Publishing, p.245.

7.3.1 Intentionality:

Brentano distinguishes between psychical and physical phenomena. According to him, there are at least three distinguishing characteristics between them. (1) Psychical phenomena are unextended, while physical phenomena can be both extended and unextended. (2) All psychical phenomena are essentially intentional. (3) All psychical phenomena are conscious of themselves.

Another important facet of Brentano's view is the elucidation the relation between presentations and phenomena. For Brentano, the concept of presentation implies the notion of presentation of a phenomenon. A phenomenon is an appearance, but it is always an appearance of something to someone. In other words, there are no appearances of something without a subject who receives the appearance. We can formalize Brentano's view in four cardinal theses:

1) The presentation or the act of presentation is to be distinguished from the object of presentation.[194]
2) All psychical phenomena are presentations or they are based on presentations.
3) All mental phenomena have the attribute of intentionality. This is equivalent to immanent objectivity, or intentional inexistence of an object.
4) All psychical phenomena have to property of being conscious of themselves.

We need to explore each thesis in more detail and scope of application.

Thesis 1 implies that a presentation is an act that apprehends an object. For instance, the act of seeing presents a color as the object. In general, all acts of presentation portray an object that is different from the very presentation. Here, Brentano departs from Hume and the empiricist psychologists, for whom sense-impressions are confused with the act of sensing. In the case of our example, the act of seeing the color should not be confused with the phenomena of color itself. As we alluded to above, the concept of presentation implies the idea of the object presented. This is what a phenomenon is, according to Brentano.

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[194] Brentano, F,, (1973) *Psychology from an Empirical Standpoint*, translated by Antos C. Rancurello and Linda Lopez McAllister, Routledge & Kegan, New York, p. 79.

Consequently, the presentation is always different from the phenomenon that is introduced. For example, the presentation of color is not colored. This sounds like a very elemental statement. However, its establishment is crucial, since it will act as a presupposition for the ensuing thesis. Another important implication of this thesis is that it is not found among any physical phenomenon.

Thesis 2 asserts that the list of psychical phenomena includes not only acts such as presentations but also mental acts such as feeling, judging, desiring, and so on. This thesis asserts that presentation is the necessary condition for having any other psychical phenomenon. This implies that nothing can be felt, desired, or judged unless it was presented before. We could state that the phenomenon of presentation is the presupposition of any other conscious phenomenon.

Thesis 3 introduces the notion of intentionality as the distinguishing property of conscious phenomenon. "Every psychical phenomenon is characterized by what the philosophers of the Middle Ages called the intentional (or mental) inexistence of an object, and what we might call, though not wholly unambiguously, reference to a content, direction toward an object (which is not to be understood here as meaning a thing), or immanent objectivity".[195] Furthermore, "every mental phenomenon includes something as object within itself".[196] Brentano, analyses the notion of intentionality on three dimensions: a psychological dimension, a gnoseological aspect, and an ontological aspect.

The psychological dimension maintains that intentionality is an essential component of all conscious phenomena. Brentano describes the property of intentionality as the reference to an object, or the direction toward an object. However, he does not give a proof for intentionality, since he believes that e doe does not need to. Intentionality is a property revealed directly by inner perception, or inner consciousness. Intentionality is a fundamental datum we perceive internally. However, the question arises about the relationship between emotions and intentionality.

Emotions seem not to have the attribute of being intentional. It seems like emotions are marked by qualia and self-reflexivity alone. Feelings don't seem to refer to anything at all. Brentano contends that this assertion is faulty. According to him, emotions do refer to

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[195] Brentano, *Psychology*, p. 88.
[196] Brentano, *Psychology*, p. 88.

something and they are intentional as well. Take the example of pain; we feel pain in a head, a stomach, or a finger. Now, the source of the pain could be vague, but there is always an object distinguishable from the conscious phenomenon of pain. Moreover, this object does not need to be external; it can be also internal. Brentano draws the analogy to words. Words have meaning. This implies that they can refer to something, which is not necessarily part of the external material world. Words are signs and symbols that represent something. However, the meaning and intentionality of a word requires a subject. In other words, we need a speaker to use words, and a listener to comprehend the meaning relayed by the speaker. Intentionality and meaning require consciousness.

The gnoseological aspect of intentionality asserts that consciousness does not have to be necessarily directed at *individual* things. It can be *non-things* as well. To understand this claim, we must distinguish between "things in general" (*Ding*), "individual thing" (*Realität*), "actuality" (*Wirklichkeit*), and existence (*Exsitenz*). Accordingly, Brentano maintains that the object of intention does not have to be a concrete thing, it can be an abstract object, including imaginary objects, as well. This means that the object of intentionality does not have to have tangible existence the ways trees and tables do. Unicorns, fictional characters, aesthetic values, or ethical ideals can also be objects of intentionality. Conversely, this thesis implies that just because something is object of intentionality, it does not mean that it *really* exists.

In the ontological analysis of intentionality, Brentano maintains that any conscious phenomenon is ontologically characterized by the intentional *inexistence*. Here, the term inexistence is used in its original medieval usage. Accordingly, *existence* means effective existence. The term inexistence does not mean nonexistence, but *existence-in-the-intention*. Brentano illuminates this distinction by referring to the distinction between the *modificative* and *determinative* use of a word. Let us illustrate this difference by using an example. Consider the expression 'a brave man'. Here, the adjective brave determines the meaning and reference of the word man to by subsuming it under the class of men who are brave. Now, consider the expression 'dead man'. If the definition of the word 'man' entails 'a living human being', then the word 'dead' is modificative. A 'dead man' refers to a corpse and not to a man, according to our definition. Moreover, the phrase 'dead man' seems to contain a contradiction. Brentano maintains that the same analysis applies to the term

‘existent’. In the expression ‘an existent man’, the word ‘existent’ is used in a determinative way. However, in the expression ‘the existence in the intention of the object of Hamlet, the word ‘existent’ is used in a modificative manner. All this implies that the intentional inexistence of an object is the existence intentionally referred to the object.

Thesis 4, as we stated, maintains that all conscious phenomena are conscious of themselves. This thesis is usually used to prove that Brentano rejects the possibility of *unconscious* mental acts. I believe that this is a wrong conclusion of this thesis drawn by Brentano. To illuminate this claim, let us see what Brentano says about this. Brentano asserts that there is no possibility of intentionality without consciousness of oneself. This means that the presentation of a mental act must always accompany the possibility of that presentation to be accompanied by the possibility of being asserted that this presentation is *my* presentation. Brentano calls this *inner perception* or *inner consciousness.* Furthermore, inner consciousness must be distinguished from attention. Inner consciousness has the following properties:

1) It is noticing our own mental acts. It is the inner self-consciousness of any psychical phenomenon. Moreover, it is always present with the occurrence of experience.
2) Inner consciousness is not identical with retrospection, because requires two acts, but inner consciousness is one act.
3) Inner consciousness occurs only when one is having an experience of an object.
4) Inner consciousness is not attention, since attention always has different degrees, but inner consciousness has always the same degree.
5) Inner consciousness is responsible for the unity of consciousness.

Looking at this list, we can infer that what Brentano means by inner consciousness is nothing other than appercetive or transcendental consciousness that we postulated in the last chapter. So, what Brentano asserts is that perceptive consciousness is essentially intentional. Even emotions are intentional. We believe that intentionality and self-reflexivity provide different degrees on the same spectrum. Moreover, he maintains that perceptive is based on a foundational, unchanging inner consciousness, which is distinct from attention. We agree and call this inner consciousness appercetive or transcendental.

We both agree that apperceptive consciousness unifies experience. Moreover, Brentano maintains that inner consciousness is the primary source of knowing that there is a subject of all our mental acts. This subject is the cause of the unity of consciousness. In other words, through inner consciousness I know directly and immediately that the subject that sees is the same as the one that hears, desires, remembers, judges, infers, doubts, feels, and so on. That is transcendental consciousness. The difference between *conscious* and *unconscious* is not discontinuity of consciousness, but the degree of reflexivity of a conscious act.

Husserl maintains, in contrast to Brentano, that the immanent contents of consciousness do not need to be only intentional acts, such as immanent data of sensation. He differentiates between different kinds of intentional acts. This differentiation is based on the phenomenological description of these acts. In this description, we can infer that the intentionality as the essential property of this act, in which the intentional act has an intentional object. Husserl states "an intention that in this determinateness makes up precisely what we call the intention toward this object".[197] Furthermore, "there are…not two things present in immanent experience the object, which would not be immanently experienced and then next to it the intentional, immanent experience, of which the essential descriptive characteristic is precisely the relevant intention."[198] This simply implies that when we experience an intentional act, we don't have an immanent experience of this act, and separately, an external experience of its object. The different kinds of intentional acts, consequently, correlate to the different kinds of intentional objects. Hence, we can distinguish between acts of thought, acts of memory, and so on, inasmuch as there are different intentional objects, such as propositions, memories, and so on.

Husserl distinguishes between the *quality* and the *matter* of an intentional act. The quality of an intentional act objectifies, or presents, something in different subjective attitudes, such as desiring, doubting, imagining, and so on. The quality of an act is responsible for different kinds of intentional experiences.[199] Through the matter the intentional act has the intentional reference to a determinate intentional object. "Matter was

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[197] Husserl, E., (1970) *Logical Investigation*, translated by J. N. Findlay, London, Routledge & Kegan Paul, vol. II, Inv. V, § 20.
[198] Husserl, *Logical Investigation*, vol. II, Inv. V, §11a.
[199] Husserl, *Investigations*, vol. II, Inv. V, § 20.

classed as that moment in an objectifying act which makes the act present just this object."[200] "The matter firmly determines not only the object as such, which is meant by the act, but also the way in which it is determined."[201] This implies that matter determines both the denotation (*Bedeutung*), namely, which object the intentional act will refer to and connotation (*Sinn*), namely, the attributes of the object. The matter is responsible for making the intentional act refer to a table, or a tree, and so on, while the quality is responsible for making the intentional act refer to these intentional objects in the different modes of representations, such as thinking, imagining, remembering, etc.

The question that arises from this formulation is that how can different intentional acts be directed towards the same object. Husserl formulates his answer in terms of *noesis* and *noema*. These represent the conscious act and the content of consciousness respectively. Husserl states "noema is…a generalization of the idea of meaning (Sinn) to the field of all acts."[202] A perception, for example, "contains a noema or meaning in virtue of which it intends an object. Experiences contain in their own essence this peculiar feature of being related to…things through their…posited meaning."[203]

Husserl rejects the classical theories of knowledge of *phenomenalism* and *representationalism*. Phenomenalism, as proposed by Hume, does not differentiate between the mental act and the intentional object. For instance, Hume does not distinguish between the color red and the idea of red. As we have seen, Husserl distinguishes between the object of intentionality and the intentional act. This means that while the act of intention is real, the object of intentionality can be real or unreal. Representationalism maintains that the object is represented in consciousness by means of an image. This implies that the image in consciousness is responsible for the intentional direction toward an object. Husserl rejects this notion for two reasons. First, images require physical support. Secondly, all images are what they are by presupposing the intentionality of consciousness.

The notion of intentionality of the conscious act has tremendous consequences for our view of the world and the place of humanity in that world. The standard view, as it is

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[200] Husserl, *Investigations*, vol. II, Inv. VI, § 20.
[201] Husserl, *Investigations*, vol. II, Inv. V, § 20.
[202] Husserl, E., (1982) *Ideas Pertaining to a Pure Phenomenology and to a Phenomenological Philosophy*, translated by F. Kersten, Dordrecht, Kluwer Academic Publishers, vol. 3, p. 89.
[203] Husserl, *Ideas*, p. 346.

promoted in Cartesian and the British empiricist traditions, presents the world as a collection of substances and discrete objects. These objects stand primarily in a spatial, temporal, and causal relationship to each other. These discrete objects are distinguished from each other through their intrinsic properties. Furthermore, they exist in logical isolation from each other. It is logically possible to imagine a world, in which John Doe exists alone. This view of the world can be described as a spectatorial one, in which human beings act as spectators of the world events. Understanding of world is a matter of being caused to receive sensory data and perceiving those sensory data and finally making constant inferences about the external world from our perceptions. Humans are just perceivers of the reality and they play no metaphysical role in the articulation of that reality. Knowledge of the world is an empirical one of discrete objects, their intrinsic properties, and their interrelations. Our consciousness stands, primarily, in a causal relationship to this reality. This relationship is contingent and the two entities are logically independent of each other.

The standard spectatorial view of the world is not necessarily wrong. However, this is hardly the point of contention. The problems arise when this view is considered the only correct view and the immediate one. The spectatorial standpoint is the product of the reflective and passive interaction with the world. This standpoint, however, is parasitic on another attitude, which is immediate. This is the belief that the structure, organization, articulation of the world is a function of human agency. Sartre expressed this notion when he claimed that "the world is more the image of what I am than I am a mirror of it"[204]. The world is not primarily a causal one. In fact, the fabric of causality is discovered in reflection on the world and not the moments of immediate encounter with the world. The world is characterized primarily as sign-like, purpose-full or instrumental, and negative. These are three features that we come to see and understand the world through immediately as we act in the world. The world is a system of referential-totalities. Human existence is understood in terms *Umwelt*, one's interaction with the physical environment, *Mitwelt* that is one's interaction with other humans, and *Eigenwelt* refers the metaphysical care for one' existence, which can only inferred from the ownership of experience.

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[204] Sartre, J. P., *Being and Nothingness*, New York, Philosophy Library, New York, p. 109.

7.3.2 The Umwelt:

According to Heidegger, we encounter the objects in the world in two distinct ways. One is proximal and the other is reflective. The reflective mode is parasitic on the proximal. In other words, the reflective mode presupposes the proximal one. He calls the proximal attitude *ready-to-hand* (*zuhanden*) and the reflective approach *present-at-hand* (*vorhanden*). We come to discover objects as equipment that will fulfill our purposes and needs. For example, the blowing of winds and the movement of clouds are first discovered as they affect human purposes as in farming or shelter-building and not meteorological curiosity. The contents of the world are understood with respect to our projects and purposes and once they are proximally encountered and named then they can be subject of analysis and retrospection. Our proximal encounter with the world is not one of intellectual curiosity but one of concern for our projects and concerns. Therefore, the contents of the world have this feature of *being-for-the-sake-of* something. Our understanding of the world is not primarily a spectatorial one; rather we understand and discover the world through our agency. In fact, objects in our world come to exist through their relationships to our projects and how they can fulfill our needs. We should concur with Wittgenstein in his puzzlement about why a broom is considered one object rather than two or many. This is a matter of linguistic convention, which only makes sense within the context of our projects. The act of hammering creates the hammer, as Heidegger points out: "the hammering itself uncovers the specific 'manipulability' of the hammer the kind of being which equipment possesses – in which it manifests itself in its own right – we call readiness to hand".[205]

Another feature of the world, which is essentially a human one, is that its contents stand as signs to each other. The world is a 'referential- totality', in which objects serve as signs and symptoms for each other and events. However, nothing can function as a tool in isolation from the 'referential totality' to which it belongs. The hammer is one item inside of carpenter's toolbox and workshop. A pen exists as a pen only in the context of paper, ink, writing, and the human project of writing which itself belongs to the context of communication. The rise of the temperature and the melting of the ice and snow are not the causes of spring, but they are signs that spring is upon us. The monsoon is not the cause of

[205] Heidegger, M., (1962) *Being and Time*, translated by Macquarrie John, Robinson Edward, Harper and Row Publishers, p.98.

the end of summer in India but it refers to the end of summer. Heidegger uses the example of a car signaling. The signal highlights the intention of the driver and it brings to attention that intention to all those affected by that intention. The signal does not primarily stand in a causal relationship to the pedestrian, but it stands primarily as a sign of the driver's intentions. The signal acts as a focal point for that context. "A sign is an item of equipment which explicitly raises a totality of equipment into our circumspection so that together with it the worldly character of the ready-to-hand announces itself"[206]. A sign guarantees the worldly nature of the context of our practical concerns.

Our understanding of the world is first through reference, directionality, and intentionality. It is through these features that we build a network of meanings and semantics values. Intentionality is the very essential feature of our consciousness. Once the world is understood proximally through our purposes and the referential system, then that understanding can be subject of the spectatorial attitude and retrospective inquiry. However, what need or impulse drives us to assume the reflective attitude? The reflective stance is taken when our proximal dealings with the world is subject to breakdown. Meteorology arises out of a breakdown in that referential system that is involved in our project of farming and sailing. Geology arises out of our need for better farming lands, better shelters, and our need to be secure from the elements. This element of breakdown is the third feature of our proximal encounter with the world. It is important to point out that the sense of breakdown and lack is a proximal one and not its remedy, namely the reflective attitude. Sartre calls this element of lack the negative.

The utility of any ready-to-hand object presupposes an end product and this highlights the *towards-which* quality of the ready-to-hand entities. However, this whole enterprise presupposes the availability of material which lend themselves to ready-to-handness and so we encounter the *whereof* in the world. The last aspect of this complex web of meaning and reference is the recipient of the letter, the customer for whom the carpenter fashions a table. This aspect points to the 'publicness' of the world. Hence the nature of ready-to-hand is essentially an 'in order to', a 'for the sake of '. The being of such entity can be understood in relation to the context, and referential totality to which it belongs.

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[206] Heidegger, *Being and Time*, p.110.

Sartre agrees with Heidegger's view of the sign-like and instrumental nature of the world. The world 'is a world of tasks', where 'the original relationship between things is instrumentality'[207]. However, the task-like nature is the function of something more fundamental and profound dimension of reality. In order for 'being to order itself around us as instruments, it is necessary that negation rise up as the rubric which presides over the arrangement of being in things.' Negativity is part of the constitution of reality. 'Nothingness lies coiled in the heart of being – like a worm'[208]. Sartre claims that when he goes to meet a friend in a coffee shop and he fails to find his friend, the absence of his friend is as much the part reality of that café for him as the sounds, the furniture, the patrons, etc.

In Sartre's ontology the negative also includes destruction, cleaning, fragile, etc. The earthquake destroys a building because we are kind of beings who have criteria for recognizing that building no longer exists after the earthquake. Cleaning a desk is not displacement of material but it is removal of material from where they should not be. 'The glass is fragile means it carries in its being a definite possibility of non being when it is struck'[209]. Sartre claims that a being that cannot experience the negative could not experience destruction, cleaning, fragility, or such terms. Therefore, negativity is the necessary condition for the intelligibility, functionality, and indeed the existence of discrete objects in a human world. It is, however, important to remember that Sartre and Heidegger are not talking about existence of things independent of us but they talk about the fabric of reality in relation to us. In fact, no other reality is comprehensible to us. Negativity is a real dimension of the reality but 'man is the being through whom nothingness comes to the world'. 'The world is human because it is one we cannot conceive of except in terms of the negatives which we, with our concerns, expectations, hopes and fears, bring to the world'.[210] The sort of negativity that lies at depth of human's being is lack. For Sartre, 'lacks are negatives which appear as the essential condition of instrumentality'. Objects become instruments when they fulfill a lack and they satisfy a purpose in our projects.

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[207] Raymond, *Existentialism*, p. 220.
[208] Sartre, *Being and Nothingness*, p. 190.
[209] Sartre, *Being and Nothingness*, p. 180-185.
[210] Raymond, *Existentialism*, p. 250.

The possibility or the actuality of a ready-to-hand object losing its for-the-sake-of character propels us into a present-to-hand relationship with that object. Heidegger provides three scenarios for this possibility. When a tool is damaged, it becomes evident in its inability to be a tool for that context. When a tool is absent from the station it occupies in its referential system, its absence catches our eye as conspicuous. Moreover, when impediments arise in our dealings with the world, then the source of the impediment will propel us into the reflective mode. In all these cases the readiness-to-hand turns into unreadiness-to-hand and consequently to presence-at-hand. "When an assignment has been disturbed – when something is unstable for some purpose – then the assignment becomes explicit … The context of equipment is lit up, not as something never seen before, but as a totality constantly sighted beforehand in circumspection. With this totality, however, the world announces itself"[211]. Paradoxically, we mostly do not realize the readiness-to-hand; it is veiled from our attention because we are engulfed by the demands of the task at hand. The contemplation on the being of the entities is unveiled for us when they breakdown and consequently we associate their being with presence-at-hand.

Heidegger continues his analysis by providing a new understanding of human situatededness in the world. For Heidegger, humans are not in space the way objects, as present-at-hand are. It also does not mean for humans to be tool-like as ready-to-hand objects are. The human world is spatial but in a different sense than the Cartesian one. Humans are situated in the world such that they deal with the entities in the world "concernfully and with familiarity"[212]. Heidegger characterizes human's spatiality as *deseverance*; we bring entities close to us and we give them directionality. Our world consists of up and down, in front of and behind, left and right. Spatiality is a fundamental way of our existence in the world. The implication of our spatial existence is that we belong to the world. Spatiality means that we are involved with the world. Our spatiality opens up a sphere of interest to us in which we engage the world.

[211] Heidegger, *Being and Time*, p.105.
[212] Heidegger, *Being and Time*, p.104.

7.3.3 The Eigenwelt:

At this point, it is time to answer the questions: what is the essence of a human being and what is the relationship of humans with the world? Human existence is described by Heidegger and Sartre as *Dasein* and *Being-for-itself*. These terms are not the product of literary and philosophical style. They carry great import in our quest to answer our outstanding question. Human existence is marked by two opposing elements that are in constant strife and struggle. On one hand, we exist biologically. We belong to the animal kingdom and as such we have needs and desires that produced by our physiological functions. On the other hand, our existence is marked by transcendence. This transcendent element of our existence is the function of our consciousness.

Self-consciousness makes qualitative difference in our existence. Self-conscious beings are capable of self-reflection and self-evaluation in the light of some overarching idea. In other words, humans are capable of evaluating their status quo in reference to their vision of themselves. Self-consciousness introduces a gap in the fabric of reality. Consciousness is able to step back from its interactions with the world and evaluate those interactions in terms of its ideals. Hence consciousness is capable of transcending its own limits and since those limits are self-imposed consciousness is able to transcend itself.

Sartre and Heidegger express this notion by claiming that human existence is such that their own being is "at issue" and "in question" for them. Satisfaction of our basic physiological needs and desires is not all that matters to us because we care about what kind of beings we are. This element of care leads us to reflect on the worth of our wants and desires. In the light of our evaluation of our needs and desires and our reflection upon their worth, we form higher order desires and needs which are more in line with our vision of ourselves. This is because we are capable of having aspirations toward things that transcend our immediate desires and needs. Hence the higher desires can regulate our striving toward the basic wants in light of the overarching principles we want live our lives. Although, I am hungry and have no money and the other person is not looking; I will not steal the loaf of bread, because I might be hungry. However I don't want to be a thief and a dishonest person. Hence, self-consciousness introduces an element of negation to our existence by reflecting on what we are and saying 'no' to our immediate wants and inclinations.

We take stand on our factual givenness. Taking a stand on our givenness creates the possibility of saying 'no' to what there is and all that there has been. This gap or "nothingness", as Sartre calls it, creates a perpetual desire to be filled for consciousness suffers from the presence of this gap. However, this gap can be closed only by realization of those higher ideals. Hence, human existence is in a tension between our immediate desires and our ideals. Our existence is characterized by our givenness or *in-itself* and our ideals or *for-itself*. There is a conflict between what there *is* and what there *should be*. However, the question of our essence still remains unanswered. If the self is considered as a perpetual tension between our facticity and our ideals rather than a discrete object in the world, then we could look at the self as an event.

In a famous passage of *Existentialism and Humanism,* Sartre utters the famous existentialist slogan: "existence precedes essence". Sartre writes:" a paper-knife … has been made by an artisan who had a conception of it … Let us say, then …that its essence – that is to say the sum of the formulae and the qualities which make its production and in definition possible – precedes its existence … But there is at least one being whose existence comes before its essence, a being which exists before it can be defined by any conception of it. That being is man".[213] Here, Sartre tries to undermine the age-old notion that human being has a definite and fixed makeup. Personal identity is not a set of enduring qualities over time, but it is a perpetual event of becoming in which the gap between facticity and ideals is attempted to be filled. Personal identity consists of what one makes of himself/herself throughout the course of his/her life. For Heidegger, the world is not the sum of all entities occupying it but the whole of them all. The world is the context of all our experiences. It is not a natural concept but it is related to our immediate experience. It is the encompassing context of all our experience and humans are those beings around which this context is arranged. Human existence, *Dasein*, must be understood as *being-in-the-world*. "Being-in-the-world indicates in the very way we coined it, that it stands for a unitary phenomenon"[214]. This one phrase expresses the holistic nature of our relation to the world that cannot be reduced. The 'in' represents a relational interaction rather than a traditional spatial one. The world is necessarily human and *Dasein* is necessarily worldly. From the

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[213] Sartre, J. P., (1966) *Existentialism and Humanism*, translated P. Mariet, Methuen.
[214] Heidegger, *Being and Time*, p.76.

outset, Heidegger makes two basic assumptions about *Dasein* that drive his existential analytic project. First, *Dasein's* being is at issue for him/her. The continuation of *Dasein's* existence as the mode that this existence takes confronts *Dasein* with questions that he/she must find answers to and subsequently he/she must live up to those solutions or seek solace in already provided solutions without questioning them. The second assumption is that "the Being which is an issue for this entity in its very Being, is in each case mine"[215]. Being and the concern for it is not just a theoretical concern that its resolution will lead to relief of intellectual cramps. It is something proximal and immediate. It strikes each one of us intimately.

The essence of *Dasein* is understood by three a priori structures: its past, facticity revealed through attunement; its present, revealed through discourse; and its future, its possibilities revealed through understanding. Through attunement, the being of *Dasein* is manifested to him/her immediately. *Attunement* reveals *Dasein's* care for his/her being through emotions such as fear. *Attunement* also adjusts, or tunes in *Dasein* to other beings and it allows other beings to be revealed for *Dasein* emotionally articulated such as fearsome, joyful etc. Through *attunement*, *Dasein* finds him/herself already in a world among other beings and depending on them. *Attunement* not only discloses those beings as present but also present in a particular way. *Attunement* is the ontological expression of *Dasein's* facticity. Dasein always finds him/herself in a particular *attunement* or mood. *Dasein* can change its moods but it can never be without *attunement*. The fact that we always find ourselves in a specific mood indicates our 'thrownness' in the world. *Attunement* shows that we do not have complete control over ourselves.

Everyday *Dasein* understands the world, other beings, and itself in a pre-conceptual mode, which is different from the conceptual cognition. In fact, conceptual cognition is parasitic on and presupposes the pre-conceptual understanding. *Understanding*, partly, constitutes our being-in-the-world because all acts of knowing and explanation in the world presuppose an a priori understanding of what is to be asked. This *understanding* does not consist in understanding of any particular item, but an understanding of the world as the context of all experience and a whole and the *Dasein's* place in it as the center around which this whole is arranged.

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[215] Heidegger, Being and Time, p.67.

Understanding is an existential structure, through which *Dasein* understands the world as introducing to him/her an array of possibilities for its future. In understanding, *Dasein* projects itself. When *Dasein understands*, it shows to him/herself possibilities. Through specific moods, *Dasein* projects possibilities for him/herself. When we are joyful and successful in our jobs, we come to see our possibilities from that perspective. We purchase homes. We buy retirement plans. We plan the future of our family. In projecting these possibilities, *Dasein* discloses the world to him/herself. In fact, *Dasein* interprets him/herself. "In interpretation, understanding does not become something different, it becomes itself".[216] *Interpretation* discloses our engagement in the world. *Understanding* is that precondition that makes any *interpretation* possible. However, *understanding* also is always from a point of view. Moreover, it can only be interpreted with respect to already available concepts, inherited from one's civilization. These elements of understanding have two major implications. First, *understanding* is always with presuppositions. We cannot know anything from a purely objective, independent standpoint. We always understand from the standpoint of our dispositions and available concepts. Second, *understanding* always involves language and discourse.

The present for *Dasein* is the intersection between past and present, between its thrownness and possibilities. Therefore, Dasein's presence always confronts it with a choice to either take ownership of its future possibilities (being authentic) or delegate that responsibility to the common practices and ready-made solutions without contemplation (inauthentic being). *Dasein* inherits a value system and referential totalities from its past which engage him through discourse and language in the present and reveal his possibilities for the future. *Discourse* for Heidegger is that a priori condition that makes formal language possible. *Discourse* involves both the words and silence since both are constitutive of understanding meaning. "Discourse is the articulation of intelligibility".[217]

Dasein's being is at issue for him/her as he/she is already present in the world, depending on and in presence of other beings, being-with other *Daseins*, and projecting into future through its possibilities. *Dasein's* existence is always hovering between 'here' and 'there'. Dasein is described as 'thrown projection'. *Dasein* always already finds itself in the

[216] Heidegger, Being and Time, p.148.
[217] Heidegger, Being and Time, p.161.

world looking to the future. This is what the spectatorial philosophy of Descartes and company fail to realize and which has alienating consequences for man's position in the world.

Human existence has a distinct temporal character that differentiates it from other beings. The temporality of our existence is marked by goal-directedness. In other words, our existence is oriented toward the future. This notion claims something more than the obvious that all creatures move forward in time. It is true that all beings subsist and persist through time, but it is of human nature that our existence is future oriented in that we constantly our in pursuit of actions that will close that rift at the core of our being. Our movement into future is always in reference to those projects and ideals that define our transcendence. Our ideals also shape our interpretation of our present and our past. It is in the light of my future projects and my *care* for those projects that I come to see my past history in a distinct light. My past has been good investment or a waste of time depending on its relationship to where I want to be. The events of the past have this accumulative character and effect toward the future. The present is the crossroads between the cumulativeness of the past and goal-directedness of the future. The present actions are utilization of the fruits of the past to actualize the ideals of the future. The idea that human existence is marked by a temporal organization that is accumulative with respect to the past and directional toward the future leads to a further step of viewing our every action as playing a constitutive role in our lives as a whole. Human beings are self-creating beings; their actions shape their identity. In other words, we are what we do. The events of one's life resemble a narrative rather than a causal chain of events for two distinct reasons. First, the relationship of our consciousness to the world is not primarily one of causality. The consciousness does not stand immediately in a contingent relationship to the world. The consciousness is necessarily directed and our relationship to the world is one of a referential totality, which is motivated by our lacks and our purposes. We stand in a semantic relationship to the world. The second reason for the rejection of the primacy of the causal relationship is the anticipatory nature of our existence. Future plays a fundamental role in our existence in that our existence is one of goal-directedness. Heidegger puts it best when he says that human existence is 'ahead-of-itself. Human existence is always on the way of becoming something. There are no exhaustible sets of

properties that can define a human being since our ideals are not realized but they define us as much as any tangible characteristic. This is what *Dasein* means.

As mentioned above the events of one's life resemble a narrative. The events of one's life are stages that belong to the story as a whole. For example, take the story of *Crime and Punishment* by Dostoevsky; Raskolnikov's meeting with the young prostitute was not causally necessitated by his murdering of the old pawnbroker woman. These are two events that belong to this narrative and furthermore each episode looks backwards and more importantly forward as a coherent participant in the whole of the narrative. This is not to assert that causal interactions are illusory but the point is that our existence cannot be defined by causal relationship alone. Our existence and identity can only be defined with respect to the accumulativeness or our past, and our ideals for the future. Sartre puts this point explicitly when he says, "our relationship to the world is one of valuing". "The world only emerges, and things take on their contour through the upsurge of values". This element of care and value, however, is what actually defines us. Sartre asserts that "value in its original upsurge is not posited by the *For-itself*; it is consubstantial with it".[218]

The inevitable result of the spectatorial stance is that I can never have the assurance that my experience of the world is genuine. I know the world indirectly through inferences from sense data hence I never know if those inferences are reliable because there are no independent criteria of verification. This is the essence of the problem of external world, which is a result of an implicit dualism in our paradigm between the world and us.

The objection is that this pseudo-problem arises from a false view on the world, the spectatorial view. Heidegger's strategy is not to provide an answer to this 'problem' but to dissolve the question. At the end of division one of *Being and Time*, he says that the "scandal of philosophy" is not that it cannot provide a proof for the existence of external world but "that such proof is expected".[219]

The problem has two connected flaws. One, it is based on a false view of *Dasein*. Second, it assumes a false view of the world. *Dasein* can only be understood as *being-in-the-world*. This means that *Dasein* and the world are inseparable: "the compound expression being-in-the-world indicates in the very way we have coined it, that it stands for

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[218] Raymond, *Existentialism*, p. 260
[219] Heidegger, *Being and Time*, p.205.

a unitary phenomenon".[220] The world is the setting of all *Dasein's* experiences. The world is the encompassing background of *Dasein's* encounters. The world is not the sum of all entities experienced by *Dasein*. *Dasein* does not begin separate from the world. *Dasein* is always already in the world. This *being-in-the-world* is one of an engaged relationship with the world. *Dasein* is not a world-less subject but an agent already in a world of common practices and concerns. *Dasein* is essentially in the world and its understanding of it is ontological and not mediated. *Dasein* encounters his/her own being as facticity through attunements: I am already here in presence of other beings and I am dependent on them. *Dasein* has a past. *Dasein's* being is also revealed through his/her understanding of his/her possibilities and projection into future presented to it by the world. *Dasein's* being in present is revealed to him/her through discourse with other *Daseins* in a shared world of 'referential totalities'. *Being-in-the-world* is not a natural property of *Dasein*, but an a priori, ontological, structure of its existence. There is no world without *Dasein* and no *Dasein* without the world.

7.3.4 The Mitwelt:

At this point, let us shed some light on how *Dasein* encounters others like him/her. This issue can be illuminated within the context of the so-called 'problem of other minds' and the existentialist treatment of this problem.[221] The problem of other minds can be stated as such: while I cannot doubt that I am a conscious being, I cannot have the same certitude about other's consciousness. In fact, I can never have knowledge of others being conscious being as opposed to being automata. I can observe other's behavior but I cannot know the mental states underlying those behaviors. Therefore, the only thing I can do is to advance an argument by analogy, which asserts that since others are seemingly analogous to me based on observable criteria such as behavior, others are similar to me in unobservable ways such as thoughts, intentions, and ultimately consciousness. However, arguments by analogy are unreliable and weak. Hence, our knowledge of the others is based on shaky grounds.

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[220] Heidegger, *Being and Time*, p.76.
[221] Cooper, D. E., (1990) *Existentialism*, Second Edition, Blackwell Publishers.

The problem of other minds is the progeny of a view of consciousness that treats mind and body as contingently related and logically independent of each other. This view also asserts that our experience is intelligible in a world of other consciousnesses. However, the existentialist already has shown that our proximal understanding of the world is one of a referential totality, tasks, and surfaces. However, a referential system can only be meaningful, if it is a public one. Therefore, the world is experienced as a referential totality if and only if it consists of entities that have meaning and purpose for others whom I am 'with in the world'. Another argument against the problem of other minds can be expressed as such: It is through the conflict with the consciousness of the other that I come to see my *being-for-other* via existential emotions. Hence at the core of the problem of other minds lies the misguided view of consciousness as a substance, thing-like entity. The problem of other minds is posed if and only if the intentional nature of consciousness is ignored.

Sartre's solution to the profound problem of other minds is not based on deductive argumentation. Sartre claims that human beings have a "pre-ontological comprehension of others". The pre-ontological comprehension is not a matter of induction or deduction; it is a matter of "factual necessity"[222]. Sartre asserts that the fundamental characteristic of our consciousness leaves no doubt that our being is one of being-for-others or as Heidegger calls it being-with-others as well as being-for-itself. According to Sartre, "we encounter the other, we do not constitute him".[223] The being-for-others is realized through our daily activities and our encounters with others. Our existence within a social group and culture is a constant toil with consciousness of others. Sartre presents three specific conditions where the struggle between my consciousness and the consciousness of the other rushes to the forefront. These are examples that relatively easily will illustrate his point. The first situation is 'the theft of my world'. Here Sartre provides telling example. Imagine you are walking around a park and nobody is around. Here, the objects in the park "organize themselves" around your presence and your intentions. Every entity in the park stands in a relation to you and these relationships define those objects. The lawn is behind you. The old oak tree is in front of you and the benches are beside you. All of a sudden you realize the presence of the other in the park. If he were a mere object, then he would be organized

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[222] Sartre, *Being and Nothingness*, p. 250-251.
[223] Sartre, *Being and Nothingness*, p. 250.

around your presence and intention the same way the oak tree does. However, he is recognized as a man and an embodied consciousness. He becomes a center of "disintegration" of your world. "Everything is in place; everything still exists for me; but everything is traversed by an invisible flight and fixed in the direction of a new object … we are not dealing here with the flight of the world toward nothingness or outside itself. Rather it appears that the world has kind of drain hole in the middle of its being …".[224] Sartre believes that we are all engaged in strife for the absolute conscious ownership of the world.

Another example of encounter with the other and the ensuing struggle between the consciousnesses is the phenomenon called "the look". The experience of "the look" is the experience of the gaze of the other. The instant result of 'the look' is to focus our attention not on the other but ourselves. The gaze of the other makes us conscious of ourselves as objects in the field of sight of the other. We feel vulnerable and sometimes even helpless as an object among objects in his world subject to inspection. All our focus is shifted toward ourselves and we try to decipher what he sees and what the other's consciousness intends. This effect of gaze of the other is only possible of creature with an intentional consciousness.

Our understanding of our being-for-the-other is relayed through strong emotional response of pride and shame and other such feelings. These are 'existential emotions' that reveal the nature of our consciousness to us. Shame, for example, is indicative of the exposure of our being to the consciousness of the other. Suppose that you are doing something vulgar or crude such as peeping through keyhole and there is nobody to catch you. However, suddenly you realize that somebody is looking at you. Then you feel shame. "Suddenly I realize the vulgarity of my gesture, and I am ashamed … By the mere appearance of the Other, I am put in the position of passing judgment on myself as an object, for it is as an object that I appear to the Other … Shame is by nature recognition. I recognize that I am as the Other sees me … Shame is an immediate shudder which runs through me from head to foot without any discursive preparation … Nobody can be vulgar all alone!".[225] The important element in the feeling of shame is that we see ourselves as an

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[224] Sartre, *Being and Nothingness*, p. 255-256.
[225] Sartre, *Being and Nothingness*, p. 222.

object of the other's consciousness. Pride is the other 'existential emotion' that reveals the being-for-the-other aspect of my consciousness. "My original fall is the existence of the Other. Shame – like pride – is the apprehension of myself as a nature … as given attribute of this being which I am for the Other".[226]

For Heidegger, the eqiupmental and the sign-like nature of objects in the world others is a manifestation of the same phenomenon. Heidegger assumes that the Being, which is in question for *Dasein*, is in every case 'mine'. However, this does not mean that *Dasein* is a logically isolated self. *Dasein* is always absorbed in relationship with others. Others are those with whom *Dasein* shares a world. Dasein's mode of existence in relationship to others is a *Being-with*. *Dasein's Being-in-the-world* is deeply connected with others; it is a *Being-with* others. *Dasein's* relationship is based on common care. It is manifested either as concern for objects in the world of ready-to-hand and present-to-hand, or it is of solicitude for others. *Dasein* is engaged with others in common projects. Others make up *Dasein's* world by three different ways. First, others are another entity that *Dasein* encounters. Second, either *Dasein's* projects are aimed at others or they are received from others. This is signified by the '*whereof*' and the '*towards-which'* of the referential totality. Third, every equipment within the referential totality is a tool for all the members of that totality and not one *Dasein* alone. In other words, *readiness-to-hand* is necessarily intersubjective. This also applies to *present-to-hand* since that is not a separate entity but a separate way of interaction with the same entity. Hence, *Dasein's* world is necessarily social. Heidegger makes this point in the following passage:" in our description of the … work-world of the craftsman … the outcome was that along with the equipment to be found when one is at work those Others for whom the wok is destined are 'encountered' too … The Others who are thus encountered, in a ready-to-hand, environment context of equipment are not somehow added on in thought to some Thing which is proximally just present-at-hand; such 'Things' are encountered from out of the world in which they are ready-to-hand for Others – a world which is always mine too in advance".[227]

For the most part, not only *Dasein* shares a world with others, it is utterly absorbed in the world of 'they'. "This *Being-with-one-another* dissolves one's own *Dasein*

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[226] Sartre, Being and Nothingness, p. 263.
[227] Heidegger, Being and Time, p.153-54.

completely into the kind of being of 'the Others', in such a way, indeed, that the Others, distinguishable and explicit, vanish more and more. In this inconspicuousness and unascertainability, the real dictatorship of the 'they' is unfolded. We take pleasure and enjoy ourselves as 'they' take pleasure; we read, see, and judge about literature and art as 'they' see and judge; likewise we shrink back from the 'great mass' as they shrink back; we find 'shocking' what 'they' find shocking.[228]

For Heidegger, *Dasein* can only be understood as *being-in-the-world*. This is not a contingent and spatial relationship between the *Dasein* and the world but a necessary one. *Dasein* discovers its being always as already in the world through its facticity. The past or the historicity of *Dasein* is revealed to him through moods. *Dasein* existence is marked also by its possibilities for the future through the understanding of those possibilities. However, future possibilities can only make sense in respect to a past and present. The present of *Dasein* is steeped in its interactions within a common referential system with other *Dasein*. *Dasein* is never an isolated self. It always finds itself in relationship with others. Others are not separate beings from *Dasein*. They are those with whom *Dasein* shares the context of all his experiences, a referential totality, and the world. *Dasein's being-in-the-world* is necessarily *being-with* others. This is not a natural property of Dasein; it is a necessary, a priori, ontological condition of *Dasein's* existence.

The being of *Dasein* is always revealed to him as already here with other beings and depending on them. Our proximal understanding of the world is one of a referential totality, tasks, and equipments. However, a referential system can only be meaningful, if it is a public one. Therefore, the world is experienced as a referential totality if and only if it consists of entities that have meaning and purpose for others whom I am 'with in the world'.

The way *Dasein* relates to other beings, *Dasein* or not, is through *solicitude* and *concern* respectively. It is, however, common, a priori, solicitude that ground the relationship of *Dasein* with others. We are absorbed in common projects with others and through this commonality of task; we develop solicitude for each other. We just do not encounter each other; we are engrossed in the world with others. "This being-with-one-

[228] Heidegger, Being and Time, p.126-27.

another dissolves one's own Dasein completely into the kind being of "the Others"".[229] *Being-with-one-another* is a necessary precondition of *Dasein's being-in-the-world*; it is not a choice.

In *Being and Time*, Heidegger argues that the chief characteristic of our daily existence is loss of self. The self "evaporates" into the world of daily activities and projects. The major contributor to this loss of self is our daily speech, idle talk, or *Gerede*. Idle talk is the shroud that covers true and authentic existence. Through Gerede, the world is presented to us in an uncomplicated and self-evident manner. However, this has the effect of *Gerede* closing us off from the true nature of existence and our own true possibilities. However, *Gerede* also provides us with security and comfort by reducing unpredictability and hence anxiety. When various factors lead to the collapse of our daily existence, we realize that language in its common capacity also collapses. These are moments when one face death or the death of a loved one, or any situation in which our values collapse and our habits and customs become meaningless. Here anxiety and despair become the dominant features of one's life. This anxiety is what Kierkegaard calls "sickness unto death". Nietzsche describes these moments as at time when "we lose the center of gravity which enabled us to live. For a while we lose all sense of direction".[230] Our struggle to carry out daily duties hides the true nature of our existence. The collapse of daily routines also renders the daily language useless and meaningless. This meaninglessness of daily language defies any rationalization and one finds himself in the chaos of meaninglessness of daily language and its daily habits and customs. This despair is not necessarily a bad thing as long as one is equipped with proper attitude. This realization is beyond ordinary experience, since it is without the overlay of daily language. This realization is pure silence beyond where the daily language is exhausted. It is the true reality that gives rise to this silence and in turn, this silence gives rise to a new language that finds its source in the silence. This new language is born to express the silence that gave life to it and nourishes it. This spontaneous creation of language out of silence is what Heidegger calls *Ereigniss*. Return to silence is a return to Being. A new language is born out of what Heidegger calls "echo of silence". The creative language that is born out of silence is the true language of

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[229] Heidegger, *Being and Time*, p.126.
[230] Raymond, *Existentialism*, p. 97.

Being. It cuts through our oblivion, restructures our meanings, it redefines our daily reality, and soothes us.

Dasein's present does not have to be dissolved in the 'they'. *Dasein* does not have to delegate the responsibility for its own possibilities to 'they'. *Dasein* can reclaim the authorship of his own existence and take over its own possibilities. This is not a radical freedom that *Dasein* enjoys but autonomy within the context of what is socially given to *Dasein*. This is the difference between inauthentic existence and authentic one. Jaspers reiterates this point by saying: "although my social I is…imposed upon me, I can still put up an inner resistance to it…Although I am in my social I at each moment, I no longer coincide with it… I am not a result of social configuration…I retain my own original potential."[231]

The issue of this inner resistance is one of the persistent topics in existentialism. This is usually formulated in terms of contrast between the life of *authentic* individual and the life that is steeped in the anonymous *public*, *crowd*, *herd*, or *mass*. In the *Present Age*, Kierkegaard states:

> "A public is…an abstract void which is everything and nothing…the most dangerous of powers…the public is also a gruesome abstraction through which the individual will receive his religious formation—or sink…More and more individuals, owing to their bloodless indolence, will inspire to be nothing at all—in order to become the public." [232]

We can postulate that the target of these attacks in our age would be the leveling ideologies of capitalist consumerism, communism, the mass media, and the glorification of the *common man*. It is not without foundation to assume that the powerful mass media, advertising corporations, or entertainment industry promote the legitimization and heroics of the lowest common denominator. Nietzsche protests against this by saying that "the mentality of the herd should rule in the herd, but not reach beyond it" and "there must be an end to its tyranny" in order for authentic existence to emerge.[233]

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[231] Jaspers, K., (1970) *Philosophy*, vol. 2, E. B Ashton, University of Chicago Press, p. 30.
[232] Kierkegaard, S., (1962) *The Present Age*, translated Alexander Dru, Harper& Row, p.63-64.
[233] Nietzsche, F., (1968) *The Will to Power*, translated Walter Kaufmann, Random House, sections. 287, 361.

The danger of the tyranny of the herd consists in the danger of suppressing the very possibility of a distinctively human existence. An authentic person, therefore, is not a *superman*, but a manifestation of the paradigm of what is truly human. Nietzsche warns us that "we have to realize to what degree we are the creators of value feelings—and thus capable of projecting 'meaning' into history".[234] Hence, the authentic person lends meaning to his/her life and the world. This is a reflection of the creative and interpretive character of human existence.

As we have noted above, Heidegger expresses the same idea by applying the term *they* (*Das Man*). He maintains that "the extent to which their dominion becomes compelling and explicit may change in the cause of history".[235] Moreover, he maintains that the influence of *they* is especially pronounced during our age. This is due to the fact that technology provides *them* with tremendous means—through mass media and mass production—for *leveling down* and placing the individual in *subjection* to *them*. Inauthenticity is an expression of *fallenness* or *absorption* in the publicness of the *they*. However, inauthentic existence is not the product of passing social condition from which more advanced culture are spared. *Fallenness*, life in the *they*, is a necessary a priori feature of human existence. There is no future heaven, utopia, where inauthentic existence will be eternally abolished. Inauthenticity is a persistent possibility and actuality of human existence.

The reason for this diagnosis is in the fact that we are necessarily *with* others, since the world we encounter is already articulated in terms of equipments (*Zeug*) in virtue of their public usefulness. So, in using the tools of the society I act in a way that it makes me one of *them*. Hence, technology becomes the ultimate leveling-down factor. We could reformulate this by saying that since my projects and ambitions intimately involves others; I am bound to care about the distance between the others and myself. As a result "we take pleasure and enjoy ourselves as they take pleasure…we find shocking what they find shocking. The they which is nothing definitive… prescribes the Being of everydayness".[236] The tyranny of the *they* does not have to express itself violently. It can be inconspicuous

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[234] Nietzsche, *The Will to Power*, section. 1011.
[235] Heidegger, *Being and Time*, p. 129H.
[236] Heidegger, *Being and Time*, p. 126-127H.

and this can make subjection to it all the more thorough. What a person loses to the *they* is his/her own most possibilities of being. This cannot mean that, in the *they* there is no opportunity for self-expression, originality, personal opinion, and a kind of self-exploration. On the contrary, the *they* often encourages a busy versatility, curiosity, and an exaggerated self-dissection.

Sartre agrees by admitting that we are mostly "docile instruments of a family, of a social group, of a profession etc., saying and hearing what anyone would have said and heard."[237] This leads, however, to a mode of alienation and self-estrangement called the *predominance of the other* in the coupling of the other and the self. We get taken hold by others and we construe ourselves as we are for others. We conceive our own consciousness on the model of the other.

There are, however, other forms of *bad faith.* Another form of bad faith would be the opposite of the predominance of other. In this case, we pay no regard at all at how we are for others. Another form of bad faith would be when we treat our person or body as something to which things simply happen. This is the case of the woman who pretends that the hand she leaves in an admirer's clasp, neither consenting, nor resisting, is a mere thing. One could be also guilty of bad faith by identifying too closely with one's past, thereby rejecting responsibility for one's future.

We can see that bad faith is a function of self-identity, in the sense that we reflect upon who we are and what we are like. This is a direct result of the fact that our existence is *at issue* for us. Sartre states this notion as such: that human being is a "being such that in its being, its being is in question".[238]

7.4 Dualisms Dissolved:

The idea that human existence is one of agency and not spectatorial in the world and that human existence is one of projectiveness into future has some major implications for some of the traditional dualisms in the philosophical tradition such as subject versus

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[237] Sartre, J. P., (1968) *Saint Genet: Actor, Martyr*, translated Bernard Fechtman, reprinted in *Philosophy of Jean-Paul Sartre*, editor. R. D. Cummings, p.407.
[238] Sartre, *Being and Nothingness*, p. 147.

object and mind versus brain. The objection is that these differentiations arise from a false view on the world, which is nourished, by the spectatorial view of the world and the false belief that consciousness is primarily causally related to its object. In other words, the false dualisms stem from not realizing the intentional nature of consciousness. This view is also equally adamant that any monistic view is based on reductionism and thus equally misguided.

The first dualism under attack is the distinction between subject and object. The point is that our relationship to the world is not one of logically independent objects and subjects. Sartre describes our role in the world according to the traditional view of logically independent subjects and objects as "flies bumping their nose on the window without being able to clear the glass".[239] This dichotomy is based on the view of ourselves as a particular kind of thing or substance as opposed to the objects of the world as different substances. This view, however, is the progeny of the reflective attitude and the spectatorial role of human beings. It ignores the more proximal interaction of human beings in the world as agents with projects that see the world as a referential totality. The world comes to exist for us through our activities in the world and language is the 'house of existence', as Heidegger noted. The world is steeped in semantics and meaning. The view that human beings are self-contained cognitive centers leads us to view the world as a theatre of spectacles. However, the world is essentially human and humans are essentially worldly. We are not primarily spectators of the world that play no substantial role in its articulation but we play a major role in the articulation of reality in the world. Sartre expresses this point greatly in his play *No Exit* when he writes": existence is not something which allows itself to be thought of from a distance: it has to invade you … pounce upon you, weigh heavily on your heart like a huge motionless animal".[240]

The other dualism under contention is that of mind and body. This dualism is also the product of the spectatorial attitude this time toward ourselves. Our being as selves is inseparably involved in a 'practical life-world'. Our being as selves is inseparably involved in a 'practical life-world'. We come to understand the world by the meanings imparted by our consciousness through the activities of our bodies in the world. The fact that I can look

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[239] Sartre, *Being and Nothingness*, p. 146.

[240] Sartre, J. P., (1948) *No Exit and Three Other Plays*, Alfred A. Knopf, New York, reprint Vintage International.

at the mirror and inspect my body or I can use this body as an instrument that is subject to my will is secondary and parasitic to the phenomenological given that I live through this body. The world reveals itself to my consciousness through this body. Hence, the relationship between my consciousness and body is not contingent and I cannot exist logically independent of my body or consciousness. A human being is necessarily an embodied point of view.

For Sartre, there are three distinguishable ontological perspectives on human body. The first perspective is the perspective I have on my own body apart from the other. Here, the body is the locus of reference; this is a viewpoint on the world. This is called body as being-for-itself. The second perspective is the viewpoint that I take on the bodies of others. From this standpoint, the body is an entity in the world along other entities. However, body is a special kind of entity in that its relationship to the world is primarily intentional rather than purely causal. This is called the *body-for-others*. The third perspective is the standpoint that I take on my own from the viewpoint of others. This is the perspective that makes us proud or ashamed of our own bodies or makes our bodies object of examination and observation. This is called *body-as-known-by-others*.

The existentialist view of the self and the world is a liberating one in that it puts a 'reasonable' freedom at the core of our existence and emphasizes the authorship role we play in the articulation of reality. It advises against pigeonholing of people since there are no exhaustive sets of traits that can define a human being. Human existence is one of care, and responsibility. Truth is not something that is only available to the man in the laboratory wearing a white coat. The world is utterly and inescapably human.

Chapter Eight

Process Ontology and Evolutionary Emergentism

One of the main roles of philosophy of mind is to explain the objective nature of subjective experience. This account will insure the reality of both the mind and the world. The desire is to trace back the intelligibility of experience to some feature of the world itself. As we have seen, dualists honor the reality of both the mind and the world. However, they do this at a great cost by introducing an ontological, and unsurpassable, gap in the fabric of universe. Reductive materialism, in essence, postulated the reality of the physical world alone. Consciousness was reduced either to a different description of the physical events, or behavior, or an illusion of folk psychology. Non-reductive materialism honored the reality of consciousness, but it was left with either a consciousness that is causally impotent and inert, or a consciousness that overdetermines causal chain of physical events.

Kant attempted to prove the reality of the world, and the objectivity of subjective experience. However, his implicit commitment to a type of substance metaphysics led him to postulate transcendental subjectivism. According to this view, the source of lawfulness of experience is to be found in the constructive activity of a transcendentally united, self-conscious mind. It is the categories of understanding that bestow intelligibility to the phenomenal world. The noumenal is utterly unintelligible. For Whitehead, and process metaphysics in general, the source of lawfulness, and intelligibility, of subjective experience should be placed in the objective world itself. This requires, however, a monumental shift in our metaphysical attitude. It requires a shift from substance metaphysics to process metaphysics. The entities of the world are indeed self-organizing and self-constructing systems. The condition of the unity of an object rests in the self-constituting and self-organizing activity of objects as such. These objects are self-actualizing processes. This is a monumental shift from substance-based theories we discussed so far. Here the conditions for unity of objects, and the intelligibility of the world, are traced back to the processual nature of the world. This is transcendental objectivism, or realism.

8.1 Aristotelian notion of substance and causality:

According to Aristotle, things can be divided into those that exist by nature (*phusei*) and those that exist by other causes. He had a different concept of cause than the modern sense of the notion. For Aristotle, cause is not just an antecedent event that is sufficient to generate a consequent. Cause is also the grounds and reason for an existing thing.[241] We don't understand a thing until we understand why it is and what it is. The cause gives us the 'why'. To say that something exists by nature is to point out its cause.

Each natural thing has 'within itself' a principle of change and rest. This tendency is obvious in the things like animals and plants, but it is also present in other things as well. For instance, a stone will strive toward the center of earth until its movement is hindered. Nature is an internal principle of change. Things that exist because of an external agent are artifacts. For example, a craftsman is the cause for the existence of an artifact he manufactures. Here the creative principle is external to the thing itself. In contrast to the artifacts, for natural things the creative principle is internal to the thing. Therefore, to understand why a natural thing is what it is all attention should be focused on the thing itself. Aristotle, consequently, believes that 'nature is a principle or cause of change or rest in that to which it primarily belongs'. The internal principle of things is their nature.

The internal principle of things is different from its form. The force within each thing that determines its future growth and development is its form. The form is the potentiality of things, *dunamis*. Before the potentiality is reached, the form is different from the actuality of the thing. Once the potentiality is formed, the form is the actuality. This is the mature state of things. In the growth of an organism, the form changes from the potentiality to actuality. Therefore, the form is not identical with structure. The form is a dynamic principle. The form is the force of realization of structure. The end, *telos*, of an organism is the mature structure, the actualized form. Maturity is 'that for the sake of which' the organism grows. Hence the growth of an organism is a journey from its potentiality of the form to its actuality.

> "Of things that exist some exist by nature, some other causes. "By nature" the animals and their parts exist, and the plants and the simple bodies (earth, fire, air, water)…

[241] Kenny, History of Western Philosophy.

> All the things mentioned present a feature in which they differ from things which are not constituted by nature. Each of them has within itself a principle which are not constituted by nature. Each of them has within itself a principle of motion and of stationariness (in respect of place, or of growth and decrease, or by way of alteration). On the other hand, a bed and a coat and anything else of that sort, qua receiving these designations—i.e. in so far as they are products of art—have no innate impulse to change. But in so far as they happen to be composed of stone or of earth or of mixture of the two, they do have such an impulse, and just to that extent—which seems to indicate that nature is a source or cause of being moved and of being at rest in that to which it belongs primarily, in virtue of itself and not in virtue of a concomitant attribute.
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> I say "not in virtue of a concomitant attribute," because (for instance) a man who is a doctor might cure himself. Nevertheless it is not in so far as he is a patient that he possesses the art of medicine: it merely has happened that the same is doctor and patient—and that is why these attributes are not always found together. So it is with all other artificial products. None of them has in itself the source of its own production…
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> What nature is, then,… has been stated. That nature, exists, it would be absurd to try to prove; for it is obvious that there are many things of this kind, and to prove what is obvious by what is not is the mark of a man who is unable to distinguish what is self-evident from what is not."[242]

The form occupies a special ontological station. The order of matter is due to the form principle, which is a higher and organizing principle for matter. A human being is not a heap of bone and flesh. There is an organizing principle that makes human out of the human-matter. Therefore, the form is an additional principle. Maturation of an organism is not a property of material structure; it depends on the form of the organism. The form of the thing is not observable to the senses. Its presence can only be observed through retrospective reasoning.

Everything that has a nature is a substance (*ousia*). Reality consists of a hierarchy of dependencies. The colors exist as colors of things. At the base of hierarchy of reality is the substance. The substance is that on which the existence of other things depends, but it is not dependent on anything else. A substance is a self-directing entity. Form is the expression of the organism's true being. Natural substances show some degree of ontological

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[242] *Physics*, translated by R.P. Hardie and R.K. Gaye, in The Works of Aristotle, edited by J.A. Smith and W.D. Ross, Vol. II, 192b88 ff, Clarendon Press, Oxford, UK.

independence, but they are not primary substances. These, the primary substance, require absolute ontological independence. Here, we can discern that by substance Aristotle comes much closer to the notion of lawful self-organizing process than the scholastic idea of substance. Substance is dynamic, according to Aristotle.

To understand a thing it is necessary to comprehend the 'why' for that thing. A cause is that which answers the 'why' question. This 'why' is not a function of human curiosity; it is an independent feature of the universe that stimulates our curiosity. To understand the 'why' of a thing is to understand its primary cause. The 'why' can be identified with the form. The cause or the answer to the 'why' of something can be cited in four fashions. The causes are: material, formal, efficient, and final.[243]

Material citation of cause is ' that out of which a thing comes to be and which persists'. Gold can be shaped into a ring. The matter of a ring is gold. Further the gold can be shaped into chain. Now the gold is the matter of chain. The formal, efficient, and the final cause are description of the same thing, the form. The formal cause is the form 'specified as such'. The form is 'the logos of the essence'. The essential properties of an organism express what the organism 'is' and not what is true 'of ' the organism. The latter are properties such as being red, being wide, and the like. The 'essence' is the instantiation of order in things. Therefore, essence is intelligible. To understand the order of a thing is to understand its essence or logos. This is the definition of that thing. Definition states the essence. The formal fashion to state a cause is, therefore, a definition of that thing. Hence it is its essence, its logos.

The efficient fashion to cite a cause is the primary source of the change or rest. The parents are efficient cause for the child; the craftsman is the efficient cause for the artifact. That which brings about a change is the efficient cause for that which is changed. Change is the actualization of potentiality. Cause is, therefore, a single event. When a teacher teaches a student, the teaching and the learning are not two events but one. These are two different perspectives to describe the same event, namely a change in the student. The event 'the teacher teaching' is the effect as it is the cause. Therefore it is crucial to distinguish the modern notion of efficient cause from the Aristotelian notion.

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[243] Kenny, *History of Western Philosophy*.

The reason to identify efficient cause with form can be understood by the ways that forms are transmitted in the world. Forms have two features: they are internal properties to objects and they are dynamic. Transmission of the forms is completed via three mechanisms: sexual production, by creation of artifacts, and by teaching. The art, techne, of the craftsman is in his soul. The form that he will impose on the artifact first resides in his soul. This is the form of the artifact in a stage of pure potentiality. This potentiality is fully actualized fully by successful creation of the artifact. Hence the efficient cause is the form in the process of transition from potentiality to actualization.

The fourth way to cite a fashion of cause is the final cause. This is the telos, that for the sake of which something is done. For example, plants grow roots for nourishment. Since form is the actualization of the potential, form is the end of matter. Therefore, the form is the cause that for the sake of which. The form is the final cause. Aristotle's world is a world of striving from potentiality to actuality. It is a world of purpose. The striving is an ontological entity itself.

Chance and spontaneity don't present a deviation from the teleological paradigm of the world. They can be explained within that paradigm. Chance and spontaneity are cases of apparent teleology. Automaton, or spontaneous event, is something that might have happened for the sake of something, but as it happens it did not but it was caused by an external event. A stone rolls off a cliff and strikes a man. The stone could have been a weapon but it rolled spontaneously. The stone rolled of because of its weight and the fact that it seeks the center of the earth. *Tuche*, chance, is another case of apparent teleology, but it is restricted by man's activities. It is limited by the intention of the agent.

According to Aristotle, nature is an internal principle of change. Nature is the form's transition from potentiality to actuality. This seems, however, to be in stark contrast to the Parmenidian notion of permanence of being, which informed the subsequent ideas of substance.

Change is not a process of being arising from non-being. Change is a process of actualization of a potentiality.[244] This potentiality is not a mere possibility, but it is an ontological reality. Change is 'is the actualizing of potential being as such'. This implies

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[244] Jones, W. T., Fogellin, R. J., (1969) *A History of Western Philosophy: The Classical Mind*, Wadsworth Inc. Fulfillment.

that change is directional. A second implication is that if we don't comprehend the direction of change, we don't know what the change is because we can only make sense of change by its end-state. The third implication is that every change implies a causal agent. This cause has to clarify why the change happened in a specific temporal and spatial context. This is the principle of sufficient reason. The changer or the cause of change is the introducer of form. For natural organism this principle is internally instilled. For artifacts the creator introduces the form. The final implication of Aristotle's notion of change is that actualization refers to the cause as well as the subject of cause. This is to avoid the problem of infinite regress. Change is a single event of actualization. Teacher's teaching and student's learning is one event observed from two perspectives.
Change is the actualization of potentiality. Change is form in action.

8.2 Fundamentals of Process Metaphysics:

The idea of process metaphysics can be understood in terms of an epistemic and an ontological claim. From the epistemic perspective, processes, and their implications, provide the best instrument for understanding the human as well as the physical world. In my estimation, and I hope it will be shown, it provides the best conceptual mechanism for understanding, individuality, society, culture, and history, as well as the domain of physical sciences. The ontological perspective purports that the processes present the most fundamental and insidious aspect of reality. At the heart of the process metaphysics is an inherent reductionism, which states that all physical entities are reducible to physical processes, and all concepts of 'things' as necessarily, and fundamentally, explained in terms of processes. Process and the concept of process constitute the underlying features of the physical world. Traditional metaphysics' emphasis on ontology, and an epistemology, based on the idea of 'things' is erroneous.

The physical world is made of energy. This energy is in a state of constant flux and becoming. According to Whitehead, "the universe is not a museum with its specimen in glass cases".[245] 'Things' are nothing other than comparative, and impermanent, loci of stability within a sea of constant change and impermanence. 'Things' are transitory loci of stability of an underlying process that is involved in a journey from birth, through

[245] Whitehead A. N., (1966) *Modes of Thought*, The Free Press, New York, p. 90.

maturation, and an ultimate demise and destruction. In a dynamic world of becoming, 'things' necessarily need processes. The change of a substantial thing through time can only be facilitated through an internal drive to develop. In fact, substantial things transpire from the world's flux. Hence, in a world of becoming processes have ontological and epistemic precedence over substantial things. The fabric of the physical world is one of initiation, thriving, and demise of one process and the novel emergence of another process.

Another crucial necessary factor for this change of paradigm is that processes cannot be adequately explained in terms of non-processual notions. This point becomes vital, because processes undeniably pervade the physical as well as human world. Physical history of the universe is described in terms of discrete and successive events, which form a continuum in time. However, these events are not isolated in time. They are processes that signify a beginning of a crucial point in a development, or indicate the end of that process. Take for example the case of a natural event like a volcanic eruption. This event is historical. It means that it started by some factors, passed through a course, and finally culminated in the eruption. Another event could be the formation of a super nova. This event is nothing other than a process that culminated in a specific point in the life of a star. The same idea of events as processes also holds for human events. The assassination of Arch Duke Ferdinand in Sarajevo is not an isolated event that led to World War I. It marks a crucial point in a process that encompasses all that led to that point and all that followed from that point on in that process, otherwise known as WWI. From the end of that process, other processes emerged that signify subsequent history. Thus, it is apparent that events are comparative loci of permanence, and significance, in complex processes.

Processes, activities, and events provide at least as good a description of the fabric of reality as concrete particulars. Language can capture reality, at least equally well, by resorting to verbs as well as nouns. The referents of verbs are no less real than those of nouns. An electromagnetic field is as real as the magnets affected by it. The question at this point is not to uphold the existence of one at the expense of the existence of the other, but to assign priority to one over the other. The idea is not to deny the reality of substantial things, but to put them in the proper ontological and epistemic station. This is a question of priority, fundamentality, and centrality, which puts process over substance. In other words, the reality of substance is not denied, but what is adjusted is the priority of substance and

its secondary position to processes. The implications of this prioritizing are that change and time occupy a basic role in the ontology of the world. Furthermore, contingency, novelty, emergence, and creativity are fundamental to the understanding, and more importantly the fabric of reality. Moreover, energy, fields, and forces are more elementary than substantial things. Therefore, while substance metaphysics emphasizes discrete individuality, process metaphysics accentuates interactive relatedness. While substance metaphysics puts emphasis on separateness, process metaphysics stresses wholeness. Substance metaphysics underlines individualized specificity, while process metaphysics underscores functional specificity. Hence, in the physical world change and development takes precedence over persistence and fixity.

8.2.1 What does this say about causality?

This flux, which is the world-process, is a continuous. It does not make discontinuous breaks from one arrangement to another. Rather, this flow is smooth. The continuity of the flux has the consequence that if we isolate or separate any two parts of the flux, there will still be *other parts* of the flux in between the parts that we segregated. Consequently, we can never truly divide the flux wholly, since there will always be some undivided parts of the process in the slice that links the parts we attempted to separate and isolate. Hence, we can never truly divide the process. This is exactly the condition that the concept of substantial causality requires.[246] However, a process is a homogenous, and indivisible whole. Nietzsche states that a process is "a continuous, homogenous, undivided, indivisible, flowing".[247] Consequently, there are no causes and effects in the sense that applies to substances, since substances don't comprise the fundamental level of reality. There are just flows of energy and force. When we say that this is the cause and that is the effect, we divide the flux into two isolated pieces between which we assume there is nothing. However, between cause and effect there are many processes we don't perceive.[248] The universe is a continuous macro-process comprised of many micro-processes that are in constant interaction. Hence, the universe is a plenum, a totality, without any gap. Causality

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[246] Rescher, *Process Metaphysics*.
[247] Nietzsche, F., (1974) *The Gay Science*, Translated W. Kaufmann, Random House Publishing, New York. Section. 111.
[248] Nietzsche, *The Gay Science*, section 112.

is emergence and change in a process with reference to two, or more, loci of comparative relative and transitory stability. We perceive, and conceive, these loci as substantial causes and effects. The cause and effect relationship, furthermore, is guided by internal developmental program of the process itself or the interaction of many processes, or a combination of both.

8.2.2 The Nature of Process and its Interaction with Time.

A process is a coordinated group of changes in the complexion of reality, an organized family of occurrences that are systematically linked to one another causally or functionally.[249] Processes are composed of series of connected developmental stages, which are guided by function or physical causation. These developmental stages are events, and substantial things are islands of transitory stability across these developmental stages. The concept of process is intimately related to that of time. Processes necessarily progress over time. Hence, processes entail perdurance, continuity, and change over time. This provides process metaphysics with a tremendous advantage over substance metaphysics in that it averts the problem of persistence through time, which devastates the ontology of substantial things. This problem is averted by the very nature of process. Processes are inherently lawful. This lawfulness is derived from the fact that the identity of a process is determined by its function and developmental program. As a result, the existence of process is not limited to now, but reaches into both the Past and the Future. Here, we assume an eternalist, as opposed to a Presentist, view of time, and we presuppose a perdurantist view of persistence through time as opposed to an endurantist position.

For Whitehead, one of the most fundamental problems of traditional metaphysics is its failure to incorporate time as an essential component of the existence of fundamental entities.[250] The consequence of this view is that time and space are accidental to fundamental entities; and these fundamental entities, substances, are logically independent of each other. According to Whitehead, however, "every item of the universe, including all the other actual entities, is a constituent in any one actual entity".[251] Accordingly, existence, and existing entities, is defined in terms of relational characters. This requires a

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[249] Rescher N., (2000) *Process Philosophy: A Survey of Basic Issues*, Univ. Pittsburgh Press, pp. 22-33.
[250] Whitehead A. N., (1947)*Essays in Science and Philosophy*, Philosophical Library, New York, p. 49.
[251] Whitehead A. N., *Process and Reality: An Essay in Cosmology*, The Free Press, New York, p. 148.

rejection of an implicit, or explicit, commitment to the idea of the fundamentality of substance as that "which requires nothing but itself in order to exist".[252]

A substantial thing is a temporally bounded and spatially extended invariant. This definition implies that substantial things have time dependent existence. They come into being, they endure, and they finally pass out of being. As a result, they persist through time. Moreover, they remain substantially the same throughout their persistence. This substantial sameness holds for us as well as the world around us. In fact, this sameness lays the foundation for the stability of our concepts and experience of the world. Endurantism is the view that substantial things "persist through time wholly and completely at each of several moments".[253] According to this view, the *I* of today, tomorrow, and yesterday picks out the same substantial thing, in this case the same person of me. This sameness is a literal identity. Persistence through time is interpreted as the numerical identity of a substantial thing at different times.

Process perdurantism is the theory that the *I* of yesterday, today, and tomorrow do not refer to one substantial thing persisting through time in a numerically identical fashion, but they refer to different temporal aspects of the same process. The *I* of yesterday, today, and tomorrow are different stages of the same process, namely me. A process is an aggregate of its temporal stages. The different stages of a process are not different things persisting through time, but they are different stages of a unified process, which is both spatial and temporal. The relationship of the stages to the process is one of parts to the whole. This is in sharp contrast to the, substantially motivated, endurantism. In endurantism, the substantial thing is composed of spatially extended parts fully and completely at any one time, and this entity persists through time preserving its sameness. However, processes are necessarily temporal. This means that time is not a medium through which a process travels, but it is of the essence of a process. This is drastically different from the endurantist view that substantial things are numerically identical, spatially extended invariants that are temporally bound. Accordingly, physical substances are three-dimensional, while physical processes are four-dimensional. A person is not just an aggregate of his/her spatially extended physical parts, but a spatio-temporal process. My

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[252] Ibid, p. 50.
[253] Loux M. J., (1998) *Metaphysics: A Contemporary Introduction*, Routledge, New York. p. 216.

Past and my Future are as much part of me as my arms and legs are. They are parts, or stages, to the whole that is my process. A physical process takes up both time and space.[254]

Both endurantism and perdurantism assume different types of theories of time. Endurantism assumes the Presentist view of time. According to Presentism, the substantial things present exhaust reality now. In other words, the content of the Present tense constitutes what is real and existent. Hence, the Present tense is afforded the greatest privilege, and the highest priority. The Past and the Future have no reality whatsoever. They present things that existed once and have gone out of existence, or substantial things that are yet to come to existence respectively. Although, this is a commonsense view, we see that its implication for persistence of things through time creates an intractable problem of how do concrete particulars persist fully through time and they remain identical with themselves. Furthermore, presence is not an easily graspable slice of time in that one can never clearly pinpoint the Present moment. It seems that the Present is constantly spilling over to the Future, and it never clearly begins. One can never be purely aware of the Present tense.[255] Moreover, the Present can be grasped only in its relations to the Past and the Future. The Present may be portrayed as a continuous flow away from the Past and towards the Future. Whitehead calls this flowing structure the "form of process".[256] Moreover, this structure defines the relational nature of existence.

Process endurantism charges us to grant the Present, the Past, and the Future tenses equal privilege. The contents of the Past, the Present, and the Future are equally real. Temporal relations are relative and arbitrary in a sense. Any moment can be taken as the reference point and any event earlier than, simultaneous with, or later than that event marks the Past, the Present, and the Future respectively. There is no reason to call the contents of one frame of reference real and the others unreal. This is an eternalist view of time. According to eternalism, expressions such as 'now' are indexical. The reference of indexical terms is context dependent and determined. Consequently, the utterance of 'now' does not signify any ontological special status. The role of 'now' is to date the accompanying statements.[257] The statement 'I have a headache now' marks the simultaneity

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[254] Loux, *Metaphysics*, p. 217.
[255] Loux, *Metaphysics* p. 221.
[256] Whitehead A. N., (1961) *Adventures of Ideas*, The Free Press, New York, p. 192.
[257] Loux, *Metaphysics*, p. 223.

of the event of me having a headache and the utterance that proclaims it. No special ontologically privileged status can be inferred from indexical terms. As a result, the Past, the Present, and the Future should be afforded the same ontological respect. They are equally real. However, is it commonsensical to say the Past, the Present, and the Future are equally real? The answer is that commonsense is usually a historically indoctrinated idea. What we call commonsense is usually a veiled historical prejudice perpetuated through time to the point of common acceptance. The Presentist view of time is commonsensical, because it has been indoctrinated over two millennia of explaining every event, happening, and experience based on substance metaphysics without seriously challenging that ontology. Hence, there comes moments in the history of humanity that requires Copernican revolutions that change our perspective toward the world completely and fully. The switch from substance metaphysics to process metaphysics marks such an occasion.

As we have emphasized, traditionally the foremost approach to the study of mind has been statical rather than dynamical. Accordingly, the theoretical propositions and empirical laws have been expressed as:

$A= f(x_1, x_2, x_3,\ldots, x_n)$ where A is any theoretical proposition, f is the function describing its modality and function, and x is the each component of the theoretical set. As we can see from this perspective time is an irrelevant variable in the workings of mind. A dynamical approach to the same set of laws would require us to include time as an integral part of our description of the laws of cognition. Hence, a dynamical formulation of the same theoretical propositions would look like this:

$A= f(x_1, x_2, x_3,\ldots, x_n, t)$

This formulation emphasizes the integral role of time in cognition. Here, we should emphasize that simply ordering a sequence of events temporally is insufficient. We are required to develop a deeper understanding of what time is. This is of fundamental value to the formulation of a dynamical system theory and process ontology.

The traditional description of the nature of time-space matrix is inspired by classical Newtonian physics. According to this approach, when we talk about time-space, we talk about absolute time-space. According to the Newtonian view, time-space provides an infinitely extended medium, through which particles move. Here time-space can be illustrated two dimensionally: one axis of this grid represents space and the other indicates

time. In the case of psychological phenomena, we can supplant space with other more relevant variables such as affects, probability to respond to a given stimulus etc. However, the dimension of time remains unaltered and it is presented either as an explicit or an implicit variable. As an example of explicit representation would be velocity, which is defined as covered distance of an object in a particular time span:

$$V=ds/dt$$

However, in the formula $F=m\times a$ where 'F' stands for force, 'm' is a given mass, and 'a' is acceleration, time is an implicit variable, which can be expressed as the rate of change of the rate of change of the distance covered or simply: $a=d\,(dx/dt)/dt$.

Leibniz, in contrast to Newton, presented a different notion of time-space. Leibniz defined time-space in terms of relations among monads, which are (as seen before) infinite particles with no extension in space or time.[258] In other words, Leibniz presents a relational notion of space-time. To illuminate this point, we must return to Leibniz's concern of how we can distinguish between two otherwise identical objects. This is the problem of identity and difference revisited. One way to distinguish between two seemingly identical objects would be to identify that property that sets one apart from the other. The likeliest candidate would be the relative position of these two objects in space. In other words, if they enjoy different spatial properties, we can distinguish between them. However, we could look at this simple phenomenon from a different perspective and we could say that the difference between these two particles generates space. Thus, space is a relational product. Moreover, if we order spatial locations in a certain way, then time emerges. Interval is the movement from one point in this temporal sequence to the next; and period is the movement from one location to the next and back to the original point. Moreover, two events are simultaneous when they can be distinguished spatially but not temporally.

We can see that the common point of both approaches to time is that time can be expressed as an orderly distribution in space. Time emerges as a product of representation of various spatial locations, which have been subjugated to an order. Any movement between the locations on this set generates time.

The above-mentioned exposition of time does not account for our intuition or sense of time, as it has been suggested by Kant, James, and Bergson. Our intuition of time is a

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[258] Kenny, *History of Western Philosophy.*

result of our experience of time. This sense is expressed as the directionality of time. This means that the order unfolds preferentially in a certain direction. James calls this the 'saddle point' of the present from which we remember the past and predict the future. In fact, the present is nothing other than a perspective toward the past and the future. The moment we become conscious of the present it has slipped into the past.

Physics accounts for the directionality of time through the second law of thermodynamic. Accordingly, in an isolated system entropy increases constantly. We can define entropy as increase of disorder. I would suggest that from a process metaphysical perspective entropy can be, and should be, defined as increase in probability and potentiality and decrease of actuality. Therefore, according to physics, isolated systems move toward a state of increased disorder, chaos, probability, and potentiality. This means that time represents the evolution from more organized states to less organized states. Or time indicates the movement from actuality to potentiality. Hence, the passage of time is a statistical phenomenon.

Fraser (1982)[259] distinguishes between symmetrical succession of time in the physical world and the symmetrical passage of time in the biological and psychological world. According to this view, time itself evolves along with the spatial universe. The spatial universe evolved from Big Bang. Time evolved from an *a-temporal stage*, where photons traveled chaotically at the speed of light. Then came the *proto-temporal stage*, which is characterized by a probabilistic specification of temporal position. Here, a 'moment' has no meaning. We find ourselves in the world of subatomic and perhaps atomic particles. The next step in the evolution of time was the emergence of the *eo-temporal stage*. This is the universe of the symmetrical time, which lacks direction. The eotemporal stage is followed by the *bio-temporal stage*. This indicates the emergence of life and living organism with evolutionary and developmental past—phylogeny and ontogeny—and the predictive future. This is the asymmetrical time. The final stage in the evolution of time is the emergence of consciousness and conscious beings. This is the *noo-temporal stage*. It is characterized by the coexistence of the conscious present with the physiological present. At this stage, the present becomes a conscious perspective, which remembers the past and

[259] Fraser, J. T., (1982) *The Genesis and Evolution of Time: A Critique on Interpretation in Physics*, Amherst, University of Massachusetts Press.

imagines the future. We can infer that the directionality of time emerges at biotemporal and nootemporal stages. In other words, the directionality of time is the product of life and consciousness.[260]

The consecutive temporal stages of a physical process are not the result of blind chance, or arbitrariness. The stages of a process are united by causal or functional connection under the auspices of a developmental program. As a result, the development of a process is lawful. There is a unifying and ordering principle, which guides the developmental process. The unity of a process is derived from the unity of a lawful order. This lawful order is necessarily delimitative, but not necessarily determinative. The unifying principle guarantees the integrity of the process.

8.2.3 Process and Change:

The next question that arises is that how can the integrity of a process be preserved through change? The answer to this question is twofold. First, a process is inherently temporal. Unlike substantial things that are spatially extended and persist through the medium of time, a process is both spatially and temporally extended. Secondly, the self-identity of a process through change is guaranteed by its internal complexity. A process does not change as a whole. Change is the property of the parts of a process. Change is the relationship between different stages of a process, or it describes the relationship between two processes. Any process can be a microprocess to a macroprocess, and it can be a macroprocess to other microprocesses. For instance, the universe comprises the greatest macroprocess we know. It consists of all the microprocesses that make up the physical reality, from the developmental process of the galactic lifespan to the life span of an electron in the outer shell of an atom. Change, therefore, is the function of the internal complexity of the universe, which is made of numerous microprocesses.

One important aspect of processes is that they are future oriented and forward-looking.[261] This is due to the creative and purposeful nature of processes. This becomes important in our subsequent study of personhood. However, for now, let us suffice to say that the developmental character of processes ensures that processes always grasp into the

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[260] Loux, *Metaphysics*.
[261] Rescher, *Process Philosophy*.

Future to realize existing potentials. Development is a process of self-realization of latent potential under the auspices of a lawful, and unified, developmental program, in a specific context. For Whitehead, "self-realization is the ultimate fact of facts. An actual entity is self-realizing, and whatever is self-realizing is an actuality".[262]

Processes are also historical. The Future orientedness of a process is informed by the functional and causal connectivity, which it inherits from its past and its present context. The historicity of a process delimitates its range of development, but it is not necessarily determinative of what the Future will be like. Freedom and creativity are not contradictions to determinism, but they constitute opposite ends of the same spectrum, that is the natural world process. The identity of a process is the result of the historical nature of processes. What makes a process what it is, is its function, its causal connectedness to the Past, the developmental program that reaches into the Future, and the unifying principle that ensures the integrity of the process through action and intelligence. This unifying principle is, as well, a creative principle. It is responsible for the emergence of new microprocesses out of old microprocesses, which guarantees the adaptation of the macroprocess to its environment. This emergence of novelty can be accomplished through recombination of old feature in a novel manner, or it can be achieved by assigning a new functionality to an old feature with different purpose, or it can be the emergence of a previously non-existent quality. This adaptation is a necessary ability in a developmental process. In other words, nature requires creativity, agency, and intelligence for different processes to different degrees. Here intelligence should be understood as the ability to store, process, and utilize information and data. That is something that we see, at a very complex level, even at the cellular level. An example would be the signal transduction pathways of differentiated cells.

Although, a process functions based on some regular program, it is also possible for this developmental process to be interrupted abruptly by other processes. Hence, processes can be cooperative as well destructive toward each other. The cooperative relationship is evident in the cases of symbiotic relationship between entities. The symbiotic interaction between *E. Coli* bacteria and human beings is a manifestation of the cooperative relationship. Here, two developmental processes cooperate and enhance each other's

[262] Whitehead, *Process and Reality*, p.222.

chances of self-actualization. The destructive relationship is evident in every instance where a predator kills a prey.

8.2.4 Characteristics of Processes:

There are different qualities to processes. They can be owned or unowned. An owned process is initiated by the activity of an agent; for example, I initiated the process of writing this chapter. There are also unowned process that are not initiated by any external agents, but they are initiated through internal impetus, such as vacillations of an electromagnetic field. It is precisely the existence of these unowned processes that proves substance metaphysics is incapable of giving a complete picture of the world. The existence of these processes is undisputable, and this existence cannot be explained in a non-processual manner.

Processes can also be transformative or productive.[263] Transformative processes facilitate the emergence of new processes, for instance the effect of the gravitational field on the journey of a passing photon. Productive processes culminate in products often recognized as a substantial thing, for example the manufacturing process of my computer.

8.2.5 Processes and Universals:

Up to this point, our investigation has centered on the relationship between processes and particulars. We claimed that process metaphysics provides a better ontological and epistemic framework for understanding the world. We also claimed that processes constitute the most fundamental layer of the fabric of reality. Moreover, particulars are manifested loci of comparative stability in a process. In other words, particulars supervene on processes. This is not to deny the reality of particulars, but to assign them a less fundamental, and derivative, role in nature. At this point, we can turn our attention to the relationship between processes and the universals.

Traditionally, there have been three ways to address the problem of universals.[264] *Nominalism* claims that universals are mental creations, and thus they are products of mental operation and they are mind dependent. *Realism* deems universals to be mind

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[263] Rescher N., *Process Philosophy*.
[264] Kim, *A Companion to Metaphysics*.

independent. Universals are independently existing aspects of reality, which are perceived by mind. *Conceptualism* maintains that universals are the product of mind-world interaction. The common ground between all these views is that universals are seen as commonalities shared by different particulars. The point of divergence is that how these commonalities are explained. Process metaphysics, however, attacks that very point of stipulation, and it asks to explain universals in terms of commonality between processes and not particulars. Universals should be explained in terms of common lawful function of processes, and not common properties of particulars. Two particulars exhibit the same property not by the virtue of some magical quality inherent in them, but rather they show a commonality by virtue of sharing a commonality of action in their underlying processes. There is no magic of mind or matter involved here. Processes are inherently lawful, and this lawfulness renders them repeatedly instantiable. In other words, it is the lawfulness of the world's macroprocess, which make it possible for different microprocesses to repeat the same patterns and structures.[265]

In substance metaphysics, of any kind, universals are second-order properties. They constitute a second layer of reality. They constitute a commonality that particulars share. For example, the property of redness is a universal that is shared by all things considered red. In process metaphysics, on the other hand, universals are deemed to be expressed adverbial and not adjectival. Redness is not some magical property shared by all red particulars. To be red is for a physical process to function in a certain lawful manner that is perceived in a lawful mental process as 'redly'. Different physical processes can lawfully duplicate the 'redly' pattern, and different minds can duplicate the lawful perceptual process of perceiving, or imagining, 'redly'. How different particulars can share the same shade of red is no different from how different hearts can perform the same basic function. It is all a matter of lawful function of the underlying processes.

The question at this point is whether process metaphysics takes a realist or an antirealist approach to universal. Universals are real, but this statement needs qualification since the very realist/antirealist debate is an unfortunate byproduct of Cartesian dualistic thinking. As we mentioned before, Cartesian dualism is well and alive in both explicit and implicit manner. Most of philosophical conundrums are the product of this dualistic

[265] Rescher N., (1996) *Process Metaphysics*, State University of New York Press, New York, 1996.

attitude. It is the task of the next generation of philosophers to dissolve all the dualisms. Coming back to our concern about the reality of universals, it is the position of process metaphysics that universals are real, but they are two types of universals. First, there are phenomenal, or perceptual, universals like colors. The manifestation of these universals requires an interaction of a mental process and a non-mental process. Second, there are natural kinds. These are manifested through the interaction of non-mental processes. Hence, their universality is not mind dependent. Examples of these types of universals are being an acid or a base. An implication of this view is that the final arbiter of reality cannot be mind dependence or independence, for mind also is a microprocess in the world macroprocess.

Having discussed the relationship between universals and processes, we can define processes in a new but also Hegelian way. To be a process is to be lawful, to have certain function, and to have a certain structural and functional makeup. These structural and functional types are the manifestation of the laws of natural processes; they are the universals. Hence, to be a process is to be a concrete universal.[266] Universality is inherent in processes, and in fact, to be a process is to be a manifestation of a universal. Since universality is a matter of lawful function and structure, universality is never mere abstraction. In fact, abstraction presupposes universality. Hence, universals do not belong to the realm of fiction or magical facts. They constitute the lawfulness of the world processes.

One of the most important implications of a substance ontology, which is committed to the lawfulness of the universe, is that it will be committed to a purely deterministic view of the world, where there is no room for creativity and ultimately freedom. The case is radically different for process ontology. As we have already determined, temporality is inherent to the idea of process. Processes are inherently historical in that the Past, the Present, and the Future comprise aspects of a process, and they are equally real. Reality is made of both actualities and possibilities. Hence, time occupies a fundamental role in the idea of a process. The Present moment is the intersection between a determined past and an indeterminate future. The Present moment is the junction between actualities of the Past and the possibilities of the Future; and since this Future is

[266] Rescher, *Process and Metaphysics*.

always pregnant with new possibilities, the Present moment is the theatre of creativity and novelty in the world process. Process metaphysics denies that the Past has the absolute last word over the Future. This is a mistake committed by the substance ontology through its giving primacy to concrete particulars, and embracing the Presentist view of time. Process ontology avoids this misconception by realizing the centrality of the idea of time in processes, and embracing an eternalist view of time, which gives equal status of reality to the Past, the Present, and the Future. Possibilities make up reality as much as actualities. The universe is a lawfully creative process.[267] This is manifested in the creative activity of nature and human beings. Nature is necessarily creative and lawful. These two aspects are not contradictory. The apparent contradiction is a function of a false metaphysics, substance metaphysics. Here, we should refrain from understanding creativity in religious terms but in terms of emergence of novel forms not by accident by determinable lawfully and explainable. This refers to the determinability of the universe and a rejection of its deterministic nature. Creativity and order are two aspects of the world process that insure progress and stability of the universe respectively. Creativity brings forth novelty, and it causes some level of instability. Order subsumes the novelty and insures the stability of the universe. There is no progress in status quo, but progress also requires stability. The universe as a process is both creative and orderly, but it is never deterministically stale. The progress of the universe is the product of a dialectical interaction of order and creativity. This dialectical nature of progress is the hallmark of all evolutionary processes, man-dependent or man-independent. The fact that processual progress is a result of a dialectical process between order and creativity accounts for the fact that scientific inquiry is an inductive affair. We can only predict, generalize, and compare, which gives us probable and fallible knowledge. This is not an indictment against the human mind, but it is a testimony to the creative, and innovative, aspect of the universe. All we can be certain is that there will be novelty in the Future, and we can predict what those novelties will probably be. However, we can never claim infallible knowledge about the Future. We can predict what science, art, literature, culture etc will probably be like in the Future, but we can never know with absolute certainty because the Future is not slave to the Past.

[267] Whitehead, *Process and Reality*.

For Whitehead, creativity constitutes the condition for the possibility of existence as such. In fact, creativity acts as a transcendental starting point for the entire process metaphysics. Creativity is the activity, through which "whereby the disjunctive singularities which constitute the many are conjoined as an actually existing complex unity".[268] Here creativity is understood etymologically from the verb *creare*, meaning to beget, bring forth, and produce.[269] Creativity is a synthetic and productive principle that is immanent and pluralistic. It is the condition for the existence of both 'one' and 'many'. Creativity is not a manner of existence, but rather the transcendental condition of being as such. Therefore, creativity is not reducible to any instantiation as such, because it is also the condition for the possibility of novelty. Creativity redefines our notion of reality by replacing the passive, value-devoid, mechanistic view of Newton with an active, evolving, self-constituting, and self-realizing process.

> "Creativity is the principle of novelty. An actual occasion is a novel entity diverse from any entity in the many, which it unifies. Thus, creativity introduces novelty into the content of the many, which are the universe conjunctively. The creative advance is the application of this ultimate principle of creativity to each novel situation which it originates".[270] In the creative progress of nature, "the many become one, and are increased by one." [271]

Moreover, this progress is always open-ended: "the notion of nature as an organic extensive community omits the equally essential point of view that nature is never complete. It is always passing beyond itself. This is the creative advance of nature".[272] Creativity is the promise of freedom grounded not in magic, but in the inherent creative nature of the world.

In process metaphysics, the universe is a unified macroprocess, which is comprised of subsidiary microprocesses. Accordingly, the fundamental structure of the world consists of lawful actions of forces and fields. Law-abiding forces are the impetus for processual change. In the case of, so called, physical processes the lawfulness is expressed within the context of time, space, causality, and the fundamental laws of physics. However, there are other types of processes such as psychological, social, and so forth. The lawfulness of these

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[268] Whitehead, *Process and Reality*, p. 21.
[269] Whitehead, *Process and Reality*, p. 213.
[270] Whitehead, *Process and Reality*,, p. 21.
[271] Whitehead, *Process and Reality*,, p. 21.
[272] Whitehead, *Process and Reality*,, p. 289.

processes can be represented in terms of physical laws, but this incarnation cannot be a license for classification of these processes as reducible to material and nothing more. For example, the workings of the mind can be represented as chemical workings of the brain, but this representation is not exhaustive of the function of the mind. To understand the mental processes, one has also to refer to a higher level of representation and order, in this case the principles of psychology. This implies that there are different dimensions to reality. No one dimension has an absolute monopoly over what constitutes reality. Reality is the totality of all these dimensions. The emergence of these new layers of reality is a product of an evolutionary process, which is dialectical in nature. This dialectical evolutionary process is fueled by a self-realization 'instinct' in all nature.[273] This is no intelligent design, but a form of entelechy, to use Aristotelian terms. In that, all processes act to realize their potentials in the utmost manner possible. This fact is manifested as self-formation, self-perpetuation, and self-realization at different levels of nature. At the atomic and molecular level, this trend is observed as self-formation of elementary particles into atoms and atoms into molecules. At the organic level, this order is observed as self-perpetuation. This is magnificently apparent in the workings of the DNA molecule, which forms the foundation of life, as we know it. At the mental level, this development is manifested as self-realization of the aware individual, which leads to social interaction and so forth. Thus, there is a purpose to the world processes and this purpose is self-realization at different levels. The point of existence is to form, unite, and develop. At the fringes of this orderly development is innovation, novelty, and creativity, and this is where development becomes much more than stale self-replication. It becomes progress and evolution. Hence, the Present stage of any process is, at once, the nexus between a lawful and determined the Past and the creative, indeterminable Future. The world process is not the theatre of blind change, but it is a stage for structured, orderly creativity and change. This implies that the world process consists of a web of ordered, creatively evolving, and interconnected microprocesses. This accounts for the coherence and the intelligibility of the world. This unity, and lucidity, is the presupposition of any rational act including scientific investigation. The tendency to lawful self-realization and self-propagation explains why all

[273] Hegel, *Phenomenology of Spirit*.

atoms share a common structure and function, or why all humans share behavior within certain parameters.

The coherence of the world is the function of its lawfulness. This lawfulness is the product of embodiment of knowledge and intelligence, which is inherent in all processes.[274] The processes are continually evolving. This evolution is progressive and dialectical. The subject matter of evolution is not the mere physical entities, but the knowledge these entities embody. Take the case of organic evolution. According to Darwinism, natural selection prefers certain traits to others in certain environments. However, this preference is not guided by physical structures, but the information and knowledge they embody. The basic units of Darwinian evolution are not merely sequences of DNA, but the information embodied in those sequences. It is that encoded information, or knowledge, that determines the outcome of natural selection. This fact can only be understood if one takes a processual stance rather than a 'substantial' stance. Concrete particulars cannot account for this fact. Only a view that embraces concrete universals, as the fundamental constituent of the universe, can explain this fact. Teillard de Chardin understands the importance of these ideas all too well when he proclaims, "the universe is no longer a state but a process…it is a world that is ever being born instead of a world that is".[275]

To say that the evolution of the world processes is progressive is not to deny the existence of destructive processes. A lawful, creative evolution makes use of both constructive and destructive processes. Just like a sculptor uses both addition and subtraction to shape the sculpture, and just like formation of an organism involves cell growth and cell death (as in the case of neurogenesis and neural differentiation), so does evolution involve constructive and destructive processes. Progress is the lawful creation of novelty, and innovation. The practical implication of this claim is that human beings can be optimistic about their place in the universe.

8.2.6 Processes and Dynamical Systems:

What does all this mean for our current concern, namely the question of the relation between the mind and the world. The short answer to this concern is a call to change our

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[274] Whitehead, *Process and Reality.*

[275] Teilhard de Chardin, P., (1964) *The Future of Man*, translate. N. Dewey, Harper and Row, p. 261, 81.

paradigm from an emphasis on static atemporal computational systems as our model to inherently temporal dynamic systems. It is contended that this paradigm shift is necessary to produce an accurate theory of human mental life. Up to this point, we have provided the outline of the phenomenological-existential critic of RTM and its ontological presupposition of substance ontology. We also discussed the crucial position of the idea of intentionality in this discussion. However, these points need to be substantiated by a more fundamental treatment of the notion of dynamic systems. Here, we have to compare the dynamic approach with RTM and the computational model of mind[276].

The difference becomes more apparent when we provide the definition of what cognition is according to each viewpoint. According to the computational model, cognitive agents are essentially digital computers. This means as digital computers decision-making entails the symbolic processing of data found in the real world, presenting various options, assigning different probabilities to each option. These options represent the likelihood of occurrence of different events. Decision-making is, therefore, sifting through these likelihoods and choosing the most advantageous outcome.

In contrast, in dynamic systems relevant aspects of a problem are presented through provision of continuous qualities. Consequently, decision-making is an interdependent evaluation of these values temporally. The lawfulness of this process can be described in terms of vectorial and differential equations. This implies that according to the dynamical model, decision-making represents the passing of the system through certain thresholds. The emphasis of the dynamic approach on temporality as an inherent feature of these systems is crucial. A computationalist model postulates a transformation of states in time as well. However, in this case time is a mysterious medium outside of the system, through

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[276] See Port, R. F., van Gelder, T., eds, (1995) *Mind as Motion*, MIT Press.

Thelen, E., Smith, L.B., (1994) *A Dynamic System Approach to the Development of Cognition and Action*, MIT Press.

van Gelder, T., (1995) What might cognition be, if not computation? *Journal of Philosophy* XCI, pp. 345-381.

van Gelder, T., (1998) The dynamical hypothesis in cognitive sciences, *Behavioral and Brain Sciences* 21, pp. 615-665.

Varela, F. J., Thompson, E., Rosch, E., (1991) *The Embodied Mind*, MIT Press.

which the system moves. Time somehow affects the system, but it is not clear how that happens. The other crucial point is the concept of causality, to which the computationalist would be necessary committed. The transformation of states within a computational system is the direct result of causal interaction of the system with its external environment or a product of changes of internal environment. Here, we have taken solace in the concepts of causality and change, while these concepts are inherently temporal in nature. Causality is temporal, since it describes the relationship between two phenomena in time. The cause is necessarily precedes the effect. The relationship is mechanistic between these two phenomena. However, this mechanism is temporally bound. As for the notion of change, we can see clearly, without much discussion, change can be understood in terms of time alone. In a dynamic system model, time is an inherent property of systems and causality is emergence brought forth by interactions of interrelated temporal dynamic systems.

The lawfulness of mentality, and cognition, under the computationalist model would make it deterministic in nature. However, in the dynamic model lawfulness should be understood as *determinability*, or *discribability*. This means that the cognitive processes can be explained, and studied, mathematically. However, that does not mean that they are mechanistically and causally determined. There is a room for freedom, which is understood as the unpredictability of the system. This unpredictability is not absolute, but it is relative to given parameters of environment. This can be expressed as elbowroom. However, this allows for creativity to be included and explained in our picture. Computationalism cannot solve the question of creativity. It must explain it away, or dissolve it.

Dynamical	**Computationalist**
Focus: change	Focus: state
State understood geometrically (focus on where the state is)	Internal structure (focus on what the state is made up of)
Timing: when are states passed?	Order: which states are passed?
Systems parallel/change global	Systems serial/change local
Ongoing processes	Beginning (input) & ending (output)
Representations not necessary	Representational fundamental
Structure laid out temporally (cognition as simultaneous, mutually influencing unfolding of complex temporal structures)	Structure laid out statically (cognition as transformation of static structures)
Relevant aspects are represented by means	Symbolic representation of different

of continuous quantities	options & outcomes
Decision making as interdependent evolution of the quantities over time as governed by mathematical equations	Values & likelihood of outcomes is represented
Decisions = passing of certain thresholds	Decision making = calculation of most promising option

Table 8.1: Dynamical system vs Computational system

The difference between the dynamic model and computational model can be categorized as such: the focus of the dynamic approach is *change*. While, the computational system focuses on *states*. The computational model emphasizes the *sequentiality* and *order* of mental states. The dynamic theory emphasizes their *temporality* and *timing*. The dynamic model maintains that change should be understood *globally* and the workings of systems and subsystems should be understood *parallelly*. While, the computational model insists on the *local* nature of change and the *serial* nature of the interaction of systems and subsystems. The computational model calls for the understanding of cognitive events in terms of *input*, *processing*, and *output*, which signifies beginning and end of a discrete cognitive event. Meanwhile, the dynamic model calls for analysis of not one discrete cognitive event, but cognition as *continuous* and *processual*. These differences also imply that for the computationalist position of representations are fundamental. In contrast, in the dynamic model representation should be understood in terms of action, meaning, value, and intentionality. This is due to the fact that for computationalism, cognition is causal transformation of static structures. However, we maintain that cognition should be understood in terms synchronous, mutually influencing and interrelated, temporal processes.

Hence, we can classify the advantages of the dynamic system model as such:[277]

1. Time-dependence.
2. Emergence.
3. Embodiment.

Accordingly, dynamic systems are necessarily self-organizing embodied temporal processes. In the case of the human mind, this requires that for mind to be that, it needs to be embodied in a developing nervous system. Another implication of the embodiment requirement is that only representations, which have significance in terms of the activities

[277] van Gelder, Mind as Motion.

of the system in its environment. Here, we could be accused of inconsistency by using the term *representation*. However, the emphasis should be on the term *significant*, since representations should be understood in terms intentionality. A systems ability to classify, and organize, the features of its environment is dependent on the complexity of its attractors. These attractors are utilized to represent the environmental factors. This representation, however, is not a mirroring effect it emerges as particular indicators of potential interactions of the system. This means that representations emerge in the evolution, ontogenetically or phylogenetically, of complex self-organizing systems. Consequently, we can understand intentionality in terms of complex relational structures of adaptive interactive processes. In other words, intentionality emerges as a result of the active participation of a system in its environment. However, the environment introduces constraints for the action of the system. Once constrains appear, they lead to emergence of priorities, value, concern, and meaning. Consequently, the organism is forced to orient itself in a web of referential totalities. Complexity evolves only through enriched interaction with other systems in a given environment of finite opportunities to actualize potentials. As a result, only representations that have significance in terms of the activities of the organism can emerge.

At this point it would be advantageous to define what we really mean by dynamic systems and what are properties of such systems in general with respect to conscious and biological systems. The notion of dynamic systems can be understood as an attempt to describe the evolution of a system over time. We can formalize that by saying that a dynamical system is a set $\{T, S, \Phi\}$. This set consists of T, which is an ordered time set, a space state S, and an evolution operator, through which an initial state is changed into another.[278] This operator may be deterministic or stochastic, autonomous or non-autonomous, defined explicitly or implicitly. Moreover the S may be symbolic or numerical; T and S may be discrete, continuous, or a combination of the two. The state space is a construct whose coordinates represent the components of the dynamic system. More importantly the coordinates of the state space also represent the degrees of the freedom of the system's behavior. This behavior is, however, context dependent. These sets of dynamic systems may be best described by differential equations. When we follow the

[278] Thelen, *A Dynamical Approach to the Development of Cognition and Action*.

temporal evolution of a dynamical system, we begin from an initial state and proceed through states through the action of the evolution operator. This corresponds to the implicate order principle of a process. The sequence of states generated by the evolution operator is called the *solution trajectory* and the collection of all possible solution of trajectories comprise the *flow*.

A look at the long term behavior of a dynamic system reveals certain properties. One interesting behavior of a dynamic system is that it concentrates on a subset of state space called a *limit set*. The important thing about limit sets are that they represent invariables or foci of relative points of stability. Hence, once a dynamic system approaches a limit set it tends to settle there. The limit set can be an *equilibrium point*, which is a single point that produces a constant action and behavior. Or a limit set can be limit cycle, which produces a rhythmic action by a trajectory that collapses in itself over and over again. Limit sets can be furthermore stable such as *attractors*, which act as convergence point for all local trajectories or processes. Limit set can also be unstable that can lead to novelty in the evolution of this dynamic states. A dynamic system, in general, can have many limit sets that have their own attractors and converge over time. That is what we meant by relative temporal foci of stability of a process discussed previously. The collection of all these limit sets of a dynamic state is called a *basin of attraction*. This can be illustrated by *phase portraits*.[279]

Table 8.2: Advantageous of Dynamical Systems:

Other Phenomena	**Real time**	**Embeddedness**	**Emergence**
Dynamics widely used in science	Cognition happens in real/continuous time	Cognition is embedded in neural substrate, body & environment	High level of structural complexity in natural agents without an architect
Many phenomena described dynamically	Many cognitive structures are essentially temporal	Necessary to explain how cognition to its surrounding	Self-organization requires systems with simultaneous mutually constraining

[279] Thellen, A Dynamical Approach to the Development of Cognition and Action.

			interactions
Dynamics as foundation of cognition	Timing: interaction with surrounding		Cognition as self-organisation of structure

Biological dynamical systems are further characterized by being complex and exist far from thermal equilibrium. Being far from thermal equilibrium means that the system enters into an energetic regulated relationship with it environment. The energetic relationship with the world is asymmetric. The biological system seeks constantly a state of homeostasis. This is called the *steady state*. The complexity can be understood in terms of heterogeneity, which is manifested at each level: from the molecular to the cellular, to the organic and tissue level, to the functional organ system such as the cardiovascular and nervous system, and finally the systemic level as whole—the embodied agent within a specific environment with a history. Another feature of complexity is that the constituents of the system interact in non-linear and non-homogenous. So explaining any behavior requires drawing information from all levels of complexity and not limiting ourselves artificially to one level out fear of complexity or convenience. This is in opposite to reductionism and unsubstantiated pluralism.

Another feature of these dynamic systems is that they are self-organizing.[280] This is the product of dynamic systems being open systems and their components having the possibility to interact with one another in a non-linear manner. This implies that when sufficient energy is introduced into these systems, they give rise to novelty. This does not imply that novelty is the sole product of introduction of external input. Emergence of novelty is the product of the interaction between internal organizing principle and the external requirements. So, dynamic systems—processes—are inherently creative. However, these emergent forms are not chaotic but become to subject to evolution operators, or the implicate order, of the system. Hence, self-organization emerges as the product of creativity and implicate order. Hence, self-organization is the result complexity and openness of the system to regulated energy trade. Entropy, therefore, should not be understood as chaos but as potential to produce enormous variability, simply potentiality. This is exactly what we

[280] Rescher, *Process Metaphysics*.

saw in our discussion of process ontology. The self-organizing systems select and are *attracted* to one, or many pattern, out of many possible candidates under the influence of an order limitation. This is the phenomenon of attractor, which we discussed previously.

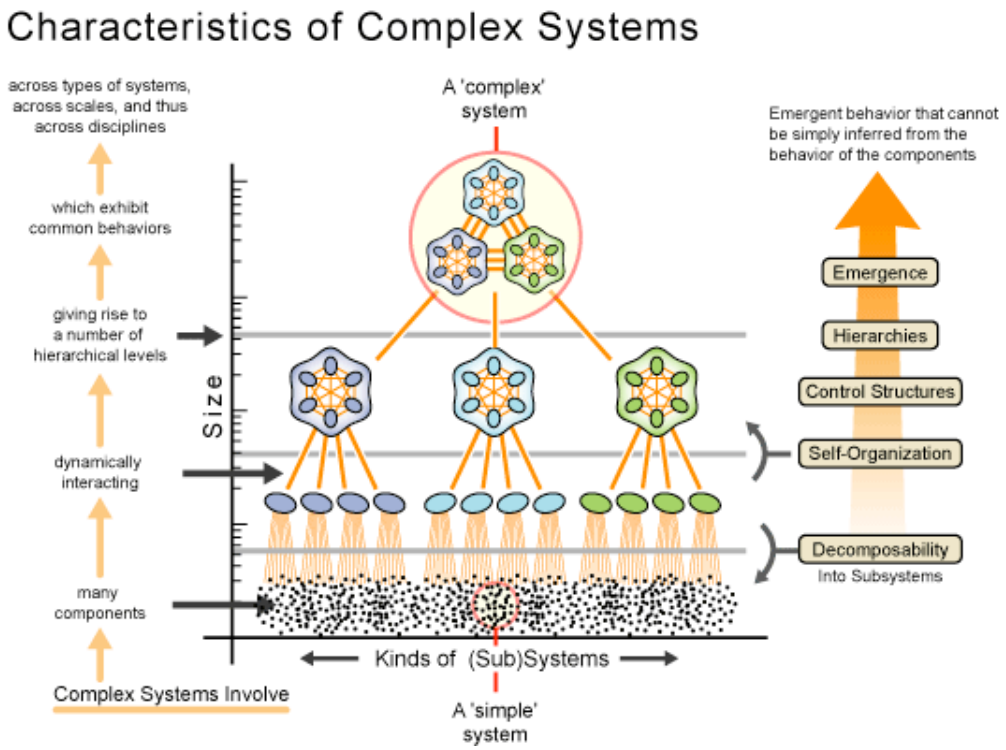

Fig. 8.1: Complex systems (www.emeraldinsight.com)

One possible question that emerges from our discussion points to the possibility of emergence of intentional consciousness in machines. First, we should realize that whatever answer we give is speculative in nature, since it cannot be empirically tested presently. Secondly, it is imperative to distinguish between intelligence and intentionality. Intelligence is the ability to solve a given problem by analyzing different options, which have been assigned probability values, and choosing the most appropriate solution. In other words, it is a computational task. Certainly, machines are capable doing that. Consequently, machines can be intelligent, even very intelligent. Intentionality, however, emerges from the concerned activity of temporal self-organizing systems of a certain type. Here, we

should the very insightful distinction between autopoiesis and allopoiesis, as presented by Varela.[281]

Autopoietic systems are self-organizing systems in the mold that we have discussed thus far. Furthermore, they are engaged continuously in an act self-regeneration of the components that make up the system as a whole. In other words, they share a history and heritage with each other. This heritage can be ontogenetic or phylogenetic. In contrast, other processes generate the components of the allopoietic systems. Hence, they lack a common heritage. Their lawfulness is not evolved, but it is the product of an externally directed developmental program. This implies that this processes lack historicity and hence their creativity is limited.

[281] This notion was introduced in 1972 joint work Varela and Maturana: *Autopoiesis and Cognition: the realization of living*.

Chapter Nine
Emergence, Consciousness, and Dynamic Logic

Form the preceding discussion; we can infer that consciousness and mind are emergent aspects of a complex process such as a human being. We saw that processes are essentially lawful and creative. Furthermore, an internal developmental program guides them. When a process reaches a certain qualitative and quantitative level of complexity, consciousness emerges. Hence consciousness is not an extra dangling feature of universe. It is the inflection by the brain and nervous system of that same orderly, creative, and intelligence principle, which guides all processes to different degrees of complexity. This position is compatible with non-reductive physicalism. However, it is based on process ontology rather than substance metaphysics.

9.1 Emergence

We can summarize our emergentist non-reductive physicalist position as such:

1) All that exists in the spatio-temporal matrix is physical processes posited by modern physics.
2) When aggregates of physical processes attain a certain degree of structural and functional complexity and relatedness authentic novel aspects and attributes emerge to signify these systems.
3) Emergent aspects and qualities are irreducible to, and unpredictable from, the basic processual phenomenon from which they emerge.

Here, we have to make some qualifications to clarify our emergentist position. We must distinguish between *emergent* properties and *resultant* properties that a *whole* might possess. Resultant properties are simply the sum of the parts of a whole, such as height and weight. They are additive and subtractive. This makes resultant properties predictable, and most importantly reducible. In Kantian terminology, we speak here of synthetic wholes. In synthetic wholes, the whole is the sum of its parts—nothing more and nothing less. Emergent properties present more than just a simple sum of the individual parts. Here, we can speak of analytic Wholes, where the whole is more than the sum of its parts. They are

unpredictable and irreducible. An example would be transparency of water, which is an unpredictable and irreducible property of combination of two atoms of hydrogen and one atom of oxygen. Consciousness presents an emergent quality as well. Hence, it would be impossible to predict at what level of complexity what physical structure would yield consciousness. Moreover as an emergent quality, consciousness is irreducible to its underlying physical process. It constitutes a different level of reality. However, this does not undermine the scientific study of consciousness. It simply requires a widening of the scientific framework and realm of inquiry.

With respect to the nature of emergent and resultant properties G. H. Lewes states:

> "Every resultant is either a sum or a difference of the co-operant forces; their sum, when their directions are the same -- their difference, when their directions are contrary. Further, every resultant is clearly traceable in its components, because these are homogeneous and commensurable. It is otherwise with emergents, when, instead of adding measurable motion to measurable motion, or things of one kind to other individuals of their kind, there is a co-operation of things of unlike kinds. The emergent is unlike its components insofar as these are incommensurable, and it cannot be reduced to their sum or their difference."[282]

According to Jeffrey Goldstein, emergence (Goldstein 1999) can be defined as:

> "the arising of novel and coherent structures, patterns and properties during the process of self-organization in complex systems."[283]

According to Goldstein's definition, emergence is comprised of certain properties:

> "The common characteristics are: (1) radical novelty (features not previously observed in systems); (2) coherence or correlation (meaning integrated wholes that maintain themselves over some period of time); (3) A global or macro "level" (i.e. there is some property of "wholeness"); (4) it is the product of a dynamical process (it evolves); and (5) it is

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[282] Blitz, David (1992), *Emergent Evolution: Qualitative Novelty and the Levels of Reality*, Kluwer Academic, Dordrecht.
Lewes, G. H. (1875), *Problems of Life and Mind* (First Series), vol. 2, Trübner, London, p. 412.

[283] Corning, Peter A. (2002), "The Re-Emergence of "Emergence": A Venerable Concept in Search of a Theory", Complexity 7 (6): pp. 18-30.
Goldstein, J., (1999), "Emergence as a Construct: History and Issues", Emergence: Complexity and Organization 1: 4972.

"ostensive" - it can be perceived. For good measure, Goldstein throws in supervenience -- downward causation."[284]

Hence, we could ascribe some fundamental characteristics to emergent relationships. It is useful to reiterate them from them quote:

- Radical novelty (features not previously observed in the system)
- Coherence or correlation (referring to integrated wholes that maintain themselves over some period of time based on some implicate order, self-organization)
- A global level, which can be understood in terms of "wholeness")
- Being the product of a dynamical process, which means that it evolves.
- Being "ostensive": meaning it is determinable
- Supervenience (downward causation)

A first formal distinction that we need to make is to distinguish between designed/predictable emergence and unpredictable emergence. *Designed emergence* refers to the notion that there are the intended characteristics of a system, which arise from the inter-connections designed in it. *Unpredicted emergence* refers to properties, which may transpire unpredictably in a system that can be considered a qualitative novelty.

Formally, emergence can be differentiated in two distinct notions: that of "weak emergence" and "strong emergence". Weak emergence can be understood as the product of interaction between the fundamental units of a system. In other words, it is a description of the relations between the fundamental units of a system. It is a mode to describe the behavior of systems in terms of properties generated by its basic features.

We could also expand the notion of weak emergence and include the notions of supervenience and downward causation. Here, the emergent properties are not necessarily reducible to fundamental units, since the novel properties are the product of interactions between the basic constituent parts.[285] In this case he whole is more than the sum of its constituent parts. This notion of emergence is traditionally coined strong emergence. Chalmers provides very clear and useful definitions of strong and weak emergence:

> "We can say that a high-level phenomenon is strongly emergent with respect to a low-level domain when the high-level phenomenon arises from the low-level domain, but truths concerning that phenomenon are not deducible even in principle from truths in the

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[284] *Ibid*.

[285] Laughlin, R., (2005), *A Different Universe: Reinventing Physics from the Bottom Down*, Basic Books.

> low-level domain.1 Strong emergence is the notion of emergence that is most common in philosophical discussions of emergence, and is the notion invoked by the British emergentists of the 1920s.
>
> We can say that a high-level phenomenon is weakly emergent with respect to a low-level domain when the high-level phenomenon arises from the low-level domain, but truths concerning that phenomenon are unexpected given the principles governing the low-level domain. Weak emergence is the notion of emergence that is most common in recent scientific discussion of emergence."[286]

Hence, we can state that weak emergence is an epistemological project. While, strong emergence makes epistemological, ontological, and etiological claims. Strong emergence maintains that high-level truths are not conceptually, or metaphysically, necessitated, or dictated, by low-level truths. While, weak emergence allows for such possibility. The strength of the claims strong emergence proponents understandably produces certain amount of skepticism. Bedau states:

> "Although strong emergence is logically possible, it is uncomfortably like magic. How does an irreducible but supervenient downward causal power arise, since by definition it cannot be due to the aggregation of the micro-level potentialities? Such causal powers would be quite unlike anything within our scientific ken. This not only indicates how they will discomfort reasonable forms of materialism. Their mysteriousness will only heighten the traditional worry that emergence entails illegitimately getting something from nothing."[287]

However, this discomfort and suspicion with respect to strong emergence is the product of a false ontological assumption and a misplaced need to predict the exact constitution of novel properties from the available units. The false ontological assumption is, as we have repeatedly stated, the substance metaphysics, which requires a deterministic causal relationship. This view cannot be maintained, since it confuses determinism with determinability. From a scientific- rational perspective, we are required to produce a mathematically account of the states of a system. So, in this sense a system must be determinable. It must lend itself to mathematical description. Determinism, of the

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[286] Chalmers, D. J., (2002), Strong and Weak Emergence, internet.

[287] Bedau, M. (1997), 'Weak Emergence', Philosophical Perspectives, 11: 375–99.

substantial causal variety, requires moreover the predictability of future states of a system based on the past configurations of its constituent parts. This *predictability* is not obtainable in the natural world in a strict sense. We can only point to probabilities of how things might be with openness to arising of novel forms not predictable from past conditions. This difference is at the core of the divergence between process and substance metaphysics. Coming concurs when he states: "the debate about whether or not the whole can be predicted from the properties of the parts misses the point. Wholes produce unique combined effects, but many of these effects may be co-determined by the context and the interactions between the whole and its environment(s)."[288] Koestler similarly states: "it is the synergistic effects produced by wholes that are the very cause of the evolution of complexity in nature".[289] Moreover, he claims that reductionistic and holisitc views should not be looked at mutually exclusive but as complementary perspectives to account for emergence of novelty. It is to this view that we subscribe as well. Anderson expresses the same notion by stating that:

> "The ability to reduce everything to simple fundamental laws does not imply the ability to start from those laws and reconstruct the universe..The constructionist hypothesis breaks down when confronted with the twin difficulties of scale and complexity. At each level of complexity entirely new properties appear. Psychology is not applied biology, nor is biology applied chemistry. We can now see that the whole becomes not merely more, but very different from the sum of its parts."[290]

Another important fact about the differentiation between cases of weak emergence and strong emergence is that cases of strong emergence entail weak emergence, but the cases of weak emergence do not, at least, necessarily entail strong emergence. This distinction between strong and weak emergence is not just polemical dispute, but it has far-reaching consequences for our view of the world, physics, and metaphysics. To state that a phenomenon is strongly emergent from the physical phenomenon situated in space, time, and governed by the laws of physics is to state that it is neither reducible to, nor deducible

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[288] Corning, *Reemrgence*.

[289] Koestler, A., (1969), *Beyond Reductionism: New Perspectives in the Life Sciences*, Koestler, A.,& Smythies J. R., ed., , Hutchinson, London.

[290] Anderson, P.W. (1972), "More is Different: Broken Symmetry and the Nature of the Hierarchical Structure of Science", Science 177(4047): 393-396.

from the those physical facts. This requires us to expand our notion of ontology and metaphysics in that we must make room for this phenomenon in an honest and true way. This means that we cannot simply dissolve and dismiss the phenomenon. We must resolve it and incorporate it. Such demands are not placed by weak emergence claims. This does not mean that weak emergence has no consequence for our understanding of nature. However, it does not require us to reform our understanding of laws of nature and expanding them or correct them.

The good news is that we don't have to choose in a blanket statement between the two. We can examine each case and decide whether it falls under one or the other category. Intuitively, we can state that there will be many more cases of weak emergence than strong emergence. The question whether there are cases of strong emergence is at all. In this I do concur with Chalmers that phenomenal consciousness provides the most prominent example of a phenomenon strongly emergent from physical, self-organizing, imlpicately orderly, creative, and complex processes that are autopoietic in nature. This strong emergence relationship applies to qualia and subjectivity, since we can establish that intentionality is weakly emergent from physical systems of the above mentioned character. The proof that subjectivity is not reducible to or deducible from physical states was established in the chapters on reductive materialism and non-reductive materialism. Incidentally, we can see that the supervenience is on the right path except that it does assumes the wrong ontology, namely substance metaphysics, which leads to it demise for the reason that it cannot assume any emergence view based substance theory and is limited to a causal notion informed by substance ontology. This means that we can, and indeed should, assume a supervenience relationship between the mental and the material. But this would be a *processual supervenience theory* based on strong emergence. This means that the consciousness emerges from the nervous system and it is supervenient on the neural states, but this relationship is not reducible to neural states and the laws of physics as we are accustomed to, but this relationship constitutes a further fundamental aspect of our universe: consciousness is a strong emergent property of neural/brain states. This strong emergent relationship entails a natural/nomological supervenience and not a logical one. This means that not every case of natural complex configuration of neural-like systems will

be necessarily conscious. An extra fundamental law governing the relationship, and interconnectivity, between these physical states and the conscious states must be satisfied.

An emergent property, as alluded before, can be understood as the appearance and formation of more complex and novel properties as a result of interaction of more fundamental or simpler units in an environment. Emergence also presupposes a top-down flow of information in form of feedback loops, which inform the causal processes. In this sense, we can understand emergence as a fundamental aspect of a developmental process, growth, or evolution. Hence we can, understand emergence in terms of two components: a complex causal interaction between different constituent units of a system and a feedback process, which reconnects the novel properties and phenomena with the constituent elements. This feedback process presupposes a holism. Hence, emergence is a product of a causal and holistic *interconnectivity*. The emergent process is always creative, lawful, self-organizing, and determinable. However, the emergent phenomena can be predictable or unpredictable in a sense of production of unprecedented and novel forms. This novelty signifies a fresh stage of the system's evolution. The new level complexity is not, however, reducible to any single basic aspect of the system, since it is the product of the top-bottom and bottom-up interconnectivity of holistic causal system. Moreover, the novel forms cannot be predicted from the basic configuration precisely due the holistic nature of the transfer of information and the processual nature of the system. Hence, the emergent novelty is neither reducible to nor deducible from constituent parts.

With the emergence of each level novelty the complexity of the system increases exponentially and combinatorially. We could say that with complexity also the potentiality increases. In traditional physics, this has been mistakenly taken for chaos and entropy set in opposition to order. Complexity is a vehicle of increased potentiality and creativity, which can be actualized. This is still a self-organizing and lawful process. Hence, there can be no talk of chaos only potentiality. However, we should be careful not to identify mere addition of more features to a system with the kind complexity we mean in this context. Mere addition of features can also give rise to noise and abundance of features in a system. Here, we mean a kind of functionally relevant addition, which we call complexity. The criterion for relevance is a function of a finality of a process or a dynamic system. Finality is nothing other than teleological feature of a dynamical system, process. A process is a self-

organizing, lawful, inherently temporal, and creative dynamic system. In Aristotelean terminology, we could say that finality is a function of the entelechy of a self-organizing process. Complexity is the product of abundance of relevant features. Hence, it is quantitative and qualitative in nature, which is based on organization, diversity, and interconnectivity.

However, this does not require a centralized organization. In other words, there is no need for a homunculus in the system, since process as whole is self-organizing, lawful, and creative as whole. Moreover, these features are implicitly present in each constituent factor. Hence, the microcosm and macrocosm reflect each other in a web of interconnectivity.

Moreover, this does not exclude the production and emergence of unintended consequences and features. The exclusion of this possibility amounts to smuggling a new version of a strict determinism. Steels states: "A component has a particular functionality but this is not recognizable as a subfunction of the global functionality. Instead a component implements a behaviour whose side effect contributes to the global functionality [...] Each behaviour has a side effect and the sum of the side effects gives the desired functionality"[291]. Here Steels emphasizes that global functionality of a system with "emergent functionality" is the totality of all "side effects", of all emergent novelties and functionalities.

The incorporation of complexity in the notion of emergence leads a layered notion of emergence. Hence, emergence can be understood and differentiated by different levels of complexity. Hence, there are:

1. First-order emergent properties: these are the product of spatial manipulations and shape transformations such as spatial arrangement of molecules to give rise to steric hindrance or surface tension.

[291] Steels, L., (1990), "Towards a Theory of Emergent Functionality", From Animals to Animats (Proceedings of the First International Conference on Simulation of Adaptive behaviour), Bradford Books (MIT Press), Cambridge, MA & London, England 451-461,

2. Second-order emergent properties: these are the product of spatial and temporal processing such as the changing weather conditions.
3. Third-order emergent properties: these are the product of spatial, temporal, and implicate, reproducible, and inheritable self-organizing principles such biological evolution of biological systems.

9.2 Logic of Being and Becoming:

One of the main implications of the process ontology is that formal logic is not sufficient enough to function as the standard of thought. Formal logic is based on discursive and abstract reasoning. It formulates general principles, upon which reasoning is based. From certain general assertions, it deduces particular conclusions. The main standard of formal logic is to make sure that the *Law of Identity*, the *Law of Contradiction*, and the *Law of Excluded Middle* are not violated in the process of reasoning.[292] Consequently, the goal of formal logic is self-consistency in thought. However, the reasoning based on formal logic does not correspond with the facts of the world.

The three fundamental laws of formal logic, namely, the *Law of Identity*, the *Law of Contradiction*, and the *Law of Excluded Middle* are considered as universally true. These laws are formal and they represent the most universal nature of things. This is the characteristic of all principles of formal logic. These cannot be proved, but they are required in all proofs. However, when these principles are rejected, all thought is reduced to bewilderment and confusion.

The principle of identity simply asserts: if any statement or proposition is true, it is true. This principle indicates that a thing is identical with itself. The thing maintains its essential nature at all times and locations and throughout any change. Things are subject to change. This is not disputed. However, the principle articulates the permanent and unalterable essence of things. In other words, if a term is used in one sense, it must be used in the same sense throughout the same argument.

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[292] Kim, *A Companion to Metaphysics*.

The principle of contradiction claims that no proposition can be both true and false. This implies that two contradictory qualities cannot be affirmed of the same thing at the same time. Hence, a proposition in which two contradictory qualities are affirmed of the same thing at the same time and in the same sense is necessarily false.

The principle of excluded middle claims that any proposition must be either true or false. Accordingly, two contradictory qualities cannot both be false of one and the same thing and in the same sense. If one quality is false, then the other must be true. There is no possibility of a third option.

The Law of Identity and the Law of Excluded Middle are tautologies. Hence, they are necessarily true. Propositions, which are true under all possible assignments of truth-value, are tautologies. However, these propositions are empty and they say nothing, for they are true under all conditions, regardless what the reality is like. A proposition, which is not empty, describes a particular condition; it illustrates a fact about the reality. However, a tautology does not depict any situation about the reality; it does not claim any fact or situation about the world. If a tautology described a situation about the world, it could be wrong about that description, and in that event, it would not be a tautology.

A tautology represents one extreme of propositions, in which all the truth-value assignments are true. The extreme of the propositions is a contradiction. A contradiction is necessarily false. A contradiction is a self-contradictory proposition, since it is at all times false. Consequently, a contradiction is false under all circumstances and conditions. This implies that, just like tautologies, contradictions do not describe any situation about the reality, for if they did they could be right, and then the proposition could not be contradictions. Hence, according to Wittgenstein, neither a contradiction, nor a tautology is a picture of reality. We can know *a priori* that tautologies are true and contradictions are false.[293]

Besides tautologies and contradictions, descriptive propositions make up the other class of propositions. These propositions, in contrast to tautologies and contradictions, describe a particular fact or situation about the world. Hence, the truth-value of descriptive propositions cannot be *a priori* established. Experience determines the truth of descriptive propositions; their truth is known *a posteriori*. However, the truths of formal logic and

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[293]Pitcher G., (1983) *The Philosophy of Wittgenstein*, Routledge, pp. 109-110.

mathematics are tautologies, or analytic. Unlike descriptive propositions, or synthetic propositions, the analytic statements are devoid of factual content; the analytic statements make no assertions about the empirical world.

Consequently, the three fundamental principles of formal logic are necessarily true. The conformity to these principles is a necessary requirement for any valid reasoning. Consequently, these principles are crucial for achieving formal truth. In any valid deduction, the conclusion follows with logical necessity from the premises. Moreover, the conclusion yields formal truth. In deductive reasoning, the premises are taken for granted. In other words, deductive reasoning is not concerned whether the premises are factually true. Deductive reasoning is concerned solely with whether the conclusion necessarily follows from the premises. However, if the premises are factually false, the conclusion cannot be materially true. Consequently in deductive reasoning, a conclusion can be factually false but formally true. This implies that formal logic deals with possible relations between propositions, regarding their truth or falsity, regardless of their content. Formal logic provides the necessary conditions of valid reasoning and it facilitates the elimination of false reasoning. However, deductive reasoning is not sufficient to determine any factual truth. The role of formal logic is to investigate the objective relationship between propositions, which are the conditions of valid reasoning. Therein lies the limitation of formal logic, in that formal logic cannot determine the factual truth of any statement. The limitation can be also the source of misuse of formal logic.

The major misuse of formal logic occurs when its principles are applied a priori and unconditionally to propositions about reality. This is a misuse, because there is a major gap between formal logic and reality. The laws of formal logic are not the laws of nature or reality. Consequently, the a priori application of these laws to the statements, which refer to the objects of reality, is not justified. However, this does no imply that the intelligibility and order of nature is illusory or false.

Leibniz understood this well enough. He asserts that differential equations are much better representatives of reality, because they can capture the flux of reality. Furthermore, he introduced the *Principle of Sufficient Reason* as the instrument to understand the nature of reality. Here, Leibniz makes a distinction between necessary truths and contingent truths. The principles of formal logic govern the realm of necessary truths, i.e. mathematics; the

Principle of Sufficient Reason governs the realm of contingent truths, assertions about nature. In other words, the empirical world is devoid of necessities. Hence, we have to find sufficient reasons to understand the world of experience and practicality.

According to Leibniz, it is one of the basic properties of human intellectual consciousness to look for the reason of events and phenomena. Human consciousness is such that it functions based on the principle of sufficient reason. This means that our faculty of understanding tries to understand every event in terms of some other event. To put it logically, anything that can be formulated, can also be questioned. To put it psychologically, the status of all propositional attitudes can be queried. In terms of epistemology, it is the form of our consciousness and it is the necessary precondition in the world that, whatever the content of experience may be, they must have intelligible relationship with each other or at minimum, and such relationship can be sought. From epistemic point of view, we are always justified to look for reasons. In the physical realm, we see this through a causal relationship between events. In the interaction of physical and organic events, this reasoning is signified in terms of stimulus and response relationship. In the organic realm of conscious being such as us, the grounds for an event can be solicited not externally but internally as well. These we call motives of the agent. Reason for an event can also be established by a mathematical description of its position in time and space. Another way, in which sufficient reasons can be established, is logical entailment. The logical entailment can be established either through observation and experience, or it can be one of the necessary presuppositions of experience, or it can follow from the truth of another proposition, or it can be the one of the laws of formal logic (such as laws of identity, contradiction, excluded middle).

For Hegel, logic is identical with metaphysics. This is so because being and knowing coincide. Hegel believes that we can know the essence of reality by moving rationally systematically and avoiding all self-contradiction along the path. Thought must abide by the inner logic of reality itself. The rational is identical with the actual. Consequently, logic and logical connections must be realized in the actual and not in empty abstraction. Logic is the process by which we infer from our experiences of the actual, the categories that describe the reality, the Absolute. This process of deduction is the essence of the dialectic.

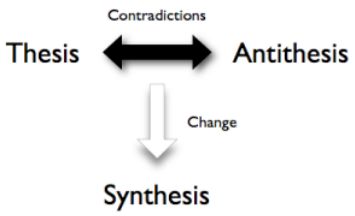

Fig 9.1: The dialectical process (www.rolfkenneth.no)

The dialectical process is characterized by a triadic movement.[294] This is a movement from *thesis* to *antithesis*, and lastly to *synthesis*. Subsequently, the synthesis becomes a new thesis. The process continues until it culminates in the Absolute Idea. This implies that thought moves and that contradiction, instead of bringing knowledge to a stop, acts as a positive impulse in human reasoning. The first basic triad in the dialectical process is the triad of *Being*, *Nothing*, and *Becoming*. The mind moves from the more general, abstract to the specific, and concrete. The most general concept that can be formed about things is that they are, and they exist. It follows that Being is the most general concept the mind can formulate. Being must also be logically prior to any specific entity, because things represent determination, differentiation, and manifestation of what is originally without features. Consequently, reality and logic begin with the indeterminate, with the primary featurelessness that precedes all definite quality. This is called Being. Here, Hegel rejects the Aristotelian notion that nothing can be deduced from a universal term. For instance, there is red and its complement term non-red. There is no way to deduce any other color from red. Furthermore, if something is red, then we cannot assert in the same context that it is something else, non-red. This is the principle of non-contradiction.

The concept of Being contains none of the particular qualities of the many things that have being. In other words, the notion of Being has no content, because when we give it content, it would not be the concept of pure Being but something. However, it is possible to deduce another concept from the concept of Being. Since pure Being is mere abstraction, it is absolutely negative. This implies that, because the concept of Being is completely indeterminate, it passes into the concept of non-Being. Whenever, one tries to think about the idea of pure Being without any particular quality, the mind shifts from Being to non-Being. This entails that in some way Being and non-Being are the connected.

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[294] Hegel, *Logic*.

Consequently, the concept of non-Being or nothing can be deduced from the Being. Here, Hegel agrees with Aristotle that nothing can be deduced from a category that was not contained in that category. In other words, to deduce Y from X requires that in some way Y already be contained in X. In this case, the concept of pure Being contains the idea of nothing. This does not mean that we can say of particular entities that they simultaneously are and are not. Hegel's point is limited to the concept of pure Being and non-Being. Hence, the antithesis, Nothing, is contained in the thesis, Being. The antithesis is always deducible from the thesis, since the former is always contained in the latter.

The movement of thought from Being to Nothing produces a third category, Becoming. The notion of Becoming arises when thought apprehends that Being contains Nothing. In fact, Being and Nothing are the same, since the concept of Nothing leads the mind back to Being. Consequently, Becoming is the unity of Being and Nothing. Becoming, in other words, is the synthesis of Being and Nothing. An entity can both *be* and *not be* when it *becomes*.[295]

Hegel uses the same dialectical logic, through which at each step he sets forth a thesis, from which the antithesis is deduced; this thesis and antithesis are united in a higher synthesis. The culmination of this process is the Absolute Idea, which is a process of self-development. From an epistemic standpoint, beginning at the lowest grade of knowledge, the sensation of properties of particular entities, the Hegel attempts to expand the range of knowledge by revealing the interrelationships of all things. For Hegel, single facts are irrational; only when they are seen as related to the whole, they become rational. The mind, then, moves dialectically, embracing an ever-increasing range of reality, discovering the truth of any entity by apprehending its relation to the whole, the Absolute Idea.

According to Hegel, the goal of logic is truth.[296] Traditionally, as we have noticed, logical investigation begins with the separation between *form* and *content*. Formal logic occupies itself with the study of form and not content. As we have seen, because of the separation of form from content, formal logic reveals nothing about the actual world. Conversely, Hegel begins his investigation of the problem of knowledge by defying the traditionally presupposed distinction between the knower and the known. He asserts that

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[295] Hegel, *Logic*.
[296] *Ibid*.

there is no objective reality independent of consciousness. Consciousness is objective reality and objective reality is consciousness. Hence, the study of thought is the study of reality. Consequently, logic can be only occupied with the static, the formal, and the abstract; but also the dynamic, and the concrete. The treatment of the dynamic and concrete aspect of reality is the function of the dialectical logic. It is important to point out that dialectical logic is not to replace formal logic, but to complement it. Dialectical logic considers both the form and the content. As we discussed before, dialectical process goes through the steps of *thesis*, *antithesis*, and *synthesis*. The implies that we must look at logic as not just rules of manipulation of propositions or even thought itself, but we incorporate our ontology into logic. Our logic must transparently reflect our ontological point of view.

9.3 Evolutionary Emergentism, and Consciousness:

Form the preceding discussion we can infer that consciousness and mind are emergent aspects of a complex process such as a human being. We saw that processes are essentially lawful and creative. Furthermore, an internal developmental program guides them. When a process reaches a certain qualitative and quantitative level of complexity, consciousness emerges. Hence consciousness is not an extra dangling feature of universe. It is the inflection by the brain and nervous system of that same orderly, creative, and intelligence principle, which guides all processes to different degrees of complexity. This position is compatible with non-reductive physicalism. However, it is based on process ontology rather than substance metaphysics. In contrast to most other theories we discussed so far, we insist that consciousness is an integral part of the world. Nietzsche reiterates this point:

> "…Man has evolved slowly, and knowledge is still evolving: his picture of the world becomes even more complete. Naturally, it is only a clearer and clearer mirroring. But the mirror itself is nothing entirely foreign and apart from the nature of things. On the contrary, it too slowly arose as a part of nature of things. We observe an effort to make the mirror more and more adequate. The natural process is carried on by science. Thus, the things mirror themselves ever more clearly." [297]

[297] Nietzsche, *The Gay Science*, section. 354.

In human consciousness, a part of the world becomes naturally aware of the whole world. So, our eyes become the eyes with which the world looks at itself. Consciousness is the self-mirroring and self-reflection of the world. Our consciousness is self-aware. In other words, in our self-consciousness the mirror reflects itself. Hence, our consciousness partly reflects the world and partly reflects and displays itself. Consciousness reflects itself, since it is part of the world that looks at the whole from inside. The reflection of the world through consciousness is achieved by creating a map of the world. Hence, consciousness makes a conceptual and symbolic plan. This symbolic and conceptual nature of this representation accounts for philosophy, science, and mythology as human attempts to understand the world. Moreover, it is an expression of our desire to find our proper place in the world. This map amounts to an internal self-representation of the world. It essentially forms an internal perspective. Every human mind, hence, forms an internal map, or an internal perspective, of the world. This accounts for the intentional and representational nature of consciousness.

Our theory is based on the theory of evolution. However, for our theory to be compatible with evolutionary notions, we most posit the continuity of the evolutionary process. This demands that there will be continuity of consciousness, cognition, and knowledge throughout different evolutionary stages. If we introduce a gap in the fabric of reality, then we must resort to magic and mysterianism to close the gap. Consequently, consciousness and natural information processing systems evolve. For Nietzsche, crystals exhibit pre-cognitive abilities insofar as they extend their own patterns into the molten flux that surrounds them.[298] Living cells extend their own pattern into other material as they incorporate nutritients. Such extension is cognitive insofar as it equalizes the unequal and transforms the other into the same.[299] This implies that evolutionary forces drive organisms to become more and more complex, and their cognitive abilities increasing in complexity along with their bodies.

The most basic proper form of cognitive operations originates in plants, which have primitive stimulus-response reflexes and primitive memories. However, as consciousness evolves, living physical systems become more and more aware of their surroundings. This

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[298] Nietzsche Friedrich, (1968) *Will to Power*, translated. W. Kaufmann & R. J. Hollingdale, Random House, New York, section. 499.
[299] Nietzsche, *Will to Power*, section 500.

evolution culminates, as far as we can tell, in human self-consciousness in which a part of universe becomes aware of the whole of which it is a part. Our consciousness is that part of the whole that mirrors the whole. However, this is an internal representation and perspective of the world. Consequently, our knowledge becomes truer and truer as we mirror the world more and more clearly and completely, while we reflect on our own reflection of the world.

According to Sri Aurobindo[300], the process of evolution is comprised by a triple character: a *widening*, a *heightening*, and *integration*. The process of widening refers to the emergence of more complex forms of matter from simpler ones. *Heightening* refers to the ascension from lower quality to higher quality. The evolution of life from matter instantiates such ascent. *Integration* means that when evolution arrives at a higher quality, it incorporates the lower stage and alters in accordance with its own principles and laws. Consequently, evolution is not just a process of emergence of higher principles from the lower ones, but it is also a process of ascension and transformation of the lower stage as well. For instance, when life emerges out of matter, it signifies an ascent to a higher grade in the evolutionary process and it initiates a transformation in matter as well. The body of an animate being presents utterly different qualities from the characteristics of inanimate matter.

This notion of consciousness is based on the logic that what nature produces must already be contained in nature in an implicit manner. In other words, causal generation manifests what was implicit in the material cause. What evolves in nature must be already involved in nature. Consciousness cannot evolve and emerge from an utterly different base. There cannot be any relation between two qualities that are utterly different and independent from each other. Hence, consciousness is the emergent manifestation of same principle of unity, information, and action present in the processes of nature. This view is based on the argument that phenomenal effect is not ontologically different from its material cause. Consequently, causality presupposes an essential constituent of a causal relationship, which is modified but not essentially altered in the process of creation of its effect. Hence, an effect *inheres* in its cause.

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[300] Sri Aurobindo, (1998) *Life Divine*, Lotus Brand, Sa Ashram.

The manifestation of the principle of information and knowledge accounts for the self-luminosity of consciousness. This view is based on the argument that phenomenal effect is not ontologically different from its material cause. Consequently, causality presupposes an essential constituent of a causal relationship, which is modified but not essentially altered in the process of creation of its effect. Hence, an effect *inheres* in its cause. This is a transcendental argument of the Kantian variety.

The same transcendental argument accounts for the identification of consciousness with intelligence, knowledge, and information. This argument states that knowledge, intelligent experience, and the intelligible orderliness of the world presuppose a transcendental information principle. One implication of the identification of consciousness with the principle of intelligence and information is that consciousness is identified with the principle of action as well, since all action presupposes some level of data and information. Volition, or will, is nothing other than *applied* consciousness.

We make a distinction between *forms* of consciousness and *contents* of consciousness. Forms of consciousness describe the different functional roles that consciousness assumes. Contents of consciousness refer to sense data, categories of discursive cognition, symbolic cognition, emotions, and motivations. We should remember, however, that the distinction that we introduce does not constitute an ontological separation, but it is a tool of understanding. Hence, forms of consciousness can be classified as:

1) *Appercetive or transcendental* consciousness.
2) *Self*-consciousness
3) *Perceptive or empirical* consciousness.

The content of consciousness is usually classified in terms of the tripartite theory of mind. Hence, *facultative* consciousness is composed of the tripartite mental faculties of:

1) *Cognition*
2) *Emotions.*
3) *Motivations*

We should re-emphasize the very important point that there are not different types of consciousness, but these are distinct roles of consciousness.

9.3.1 Appercetive consciousness:

The difference between transcendental consciousness and other *types* of consciousness is that apperceptive consciousness is self-luminous, self-established, autonomous, and foundational, while others are subject to constant change and appear in relation to particular objects. Consequently, these forms of consciousness are intentional in character.

Self-luminosity is the epistemological aspect of transcendental consciousness. Self-luminosity is the ability of being immediately experienced without being necessarily an object of cognition. This means that apperceptive consciousness is directly experienced, while it is not object of knowledge. The self-revelation of pure consciousness is comprised in the fact that it illumines or lights everything, including itself.

Moreover, self-luminosity provides the means for apperceptive consciousness to transcend the distinction between the knowing subject and the object known. Transcendental consciousness is not a subject or object. It is known purely through itself. This makes transcendental consciousness autonomous and indubitable. This highlights a further difference between appercetive consciousness and other forms of consciousness. Apperceptive consciousness is *non-dual* in nature, while other forms of consciousness thrive in the *temporal dualism* of past and future and *identity dualism* of self and the other.

Non-dual nature of apperceptive consciousness implies that it is not subject to any difference or negation. This means that appercetive consciousness is free from all *internal* and *external* distinctions. Transcendental consciousness does not have any parts, in an ontological sense. Hence, it does not have any internal divisions. External distinctions can be either heterogeneous or homogenous. Heterogeneous difference is based on the distinction among objects of different classes. Homogenous distinctions are grounded in the differentiation among objects of the same class. However, since there is nothing that is similar or dissimilar to consciousness, it is devoid of any internal and external distinctions. Hence, pure consciousness is non-dual. Our notion of transcendental consciousness corresponds very closely to Kant's idea of transcendental unity of apperception as the requirement and pre-condition for all experience. An ontological presupposition of all

mental states and experience of their contents without being itself the content experience itself.

As I sit here and type these words, I have no doubt that the thoughts rushing through my mind are mine. I have no doubt that the struggle to find the right words is mine. I have no misgiving that I am the proprietor of my experience. Where does this knowledge come from? I cannot arrive at this knowledge by inspecting the items of my experience. There is nothing in the sense data that would make this knowledge possible for me. In fact, all my experiences assume this ownership of my experience. Without this unity of apperception, I could not have any experiences at all. The knowledge of ownership of my experiences is not *a posteriori*, since it is presupposed by experience. Hence, it is *a priori* knowledge.

Kant assigned the role of transcendental unity of apperception to transcendental consciousness. This unity of consciousness accounts for the ownership of experience. The ownership of experience is not subject to dispute. The empirical investigation might reveal the content of consciousness, but not its ownership. Apperception refers to all experience of which the subject is able to say' this is mine'. Therefore, apperception is the foundation of self-consciousness and perceptive consciousness. Kant described it as the 'I think' that can be attached to all perceptual experience. It is the awareness that the perceptual experience belongs to me. Unity of apperception defines my point of view. There is never a doubt about the ownership of my experience. A doubt in the unity of apperception would mean that I stop having self-consciousness and empirical experience. For Kant, there are three elements involved in the conceptualization of experience. First, there is the structuring of intuitions in time and space. Secondly, it is the unification of intuitions under one consciousness. Thirdly, it is the ability to organize all the intuitions into concepts of categories.

The prerequisite to all this is the possibility of apperceptive consciousness. *Transcendental unity of apperception* is a formal unity, which all experience requires. Transcendental unity of apperception is the formal unity that makes empirical consciousness and self-consciousness (my awareness of my experience) possible. Kant states: "it must be possible for the 'I think' to accompany all my representations. That representation, which can be given prior to all thought is called intuition. All the manifold of intuition has, therefore, a necessary relation to the 'I think' in the same subject in which

this manifold is found".[301] This is what we mean when we say that transcendental consciousness is foundational, and autonomous. Apperceptive consciousness is the condition of all experience without being its object. Kant states:

> It must be possible for the 'I think' to accompany all my representations;
> For otherwise something would be represented in me which could not be thought at all, and that is equivalent to saying that the representation would be impossible, or at least would be nothing to me.[302]

Kant does not claim that each of my representations must be actually attended by the consideration that it is mine. It is not also required that all my representations be thought in one grand comprehension encompassing the totality of my experience. What is required is that just each of my representations must be such that it is possible for me to recognize them as mine in a feat of deliberation. This condition can be met only through an unchanging, *a priori* representation devoid of empirical content; "otherwise I should have as many colored and diverse a self as I have representations that I am conscious."[303] Consequently, transcendental apperception cannot be identified with the cognition of anything that can be brought under the concept of substance or *res cogitans*. Transcendental apperception is consciousness of mental states. Hence, it provides the ground of our representation of ourselves as spontaneous. Moreover, apperception "is something real".[304] Apperception is "something which actually exists".[305] However, we have no *concept* of apperception. According to Kant, it cannot even be brought under the category of existence.[306] Apperception gives us a sense or feeling of existence without the concept thereof: "we cannot even say that this is a concept."[307]

The other essential characteristic of apperceptive consciousness is *temporality*. In fact, unifying function of consciousness must presuppose its temporality. This point

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[301] Kant Immanuel, Critique Of Pure Reason, translated N. Kemp-Smith, Macmillan, 1929, pp. 131-132.
[302] Kant, Critique Of Pure Reason, B 131-132.
[303] Kant, Critique Of Pure Reason, B 134.
[304] Kant, Critique Of Pure Reason, B 419.
[305] Kant, Critique Of Pure Reason, B 423n.
[306] Kant, Critique Of Pure Reason, B423n.
[307] Kant, Critique Of Pure Reason, A 346/B 404.

becomes apparent when examine the phenomenological account of temporality of consciousness, or time-consciousness, presented by Husserl.

The question is simply: How can we perceive temporally extended objects and how do we perceive change and succession? One possible answer would be to maintain that consciousness takes temporal snap shots of 'nows'. However, this would not be satisfactory, since a series of snap shot of 'now' moments is temporally static and cannot account for the dynamic flow of duration of object or succession. Neither, can it account the quality of being temporally extended by an object. On the hand, we cannot reject the notion of duration and succession, because we simply do experience succession and duration. Gallagher states:

> Husserl's main claim is that a perception of a temporally extended object as well as the perception of succession and change, would be impossible if consciousness provided us only with a momentary or pure now-slice of the object and if the stream consciousness itself was a series of unconnected points of experiencing, like a line of pearls. If our perception were restricted to being conscious of that which exists right now, it would be impossible to perceive anything with temporal extension and duration. Since we obviously do experience succession and duration, we must acknowledge that our consciousness, one way or another, can encompass more than that which is given right now – it must be conscious of that which has just been, and that which is just about to occur.[308]

According to Husserl, the temporal structure of consciousness can be described by three aspects:

1. A 'primal impression'.
2. A 'retentional aspect'.
3. A 'protentional aspect'

The 'primal impression' deals with strictly now present aspect of the object of consciousness. It is that snap shot of that now moment. The 'retentional aspect' deals with *what-has-just-been* or the elapsed of conscious material. The 'protentional aspect' is concerned with *what-is-about-to* happen of conscious experience. It is an anticipatory aspect of consciousness, which is derived from the intentional, the meaning giving,

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[308] Gallagher, S., Zahavi, D., (2008) *The Phenomenological Mind: An Introduction to Philosophy of Mind and Cognitive Science*, New York, Routledge, p.75.

property of conscious act. Hence, in any conscious act the past, the present, and the future are united to give meaning to the perceptual experience.

> When I utter a sentence, I have some anticipatory sense of where the sentence is going, or at the very least, that the sentence is heading to some kind of ending. This sense of knowing where the sentence (the thought) is heading, even if not completely definite, seems essential to the experience I have of speaking in a meaningful way. It is the protentional aspect of consciousness which provides us with this intentional anticipation of something about to happen…the retention does not retain real contents…rather, consciousness retains it as an intentional content. It retains the sense of what has just consciously passed. Thus, retention must be appreciated as peculiar form of intentionality. Unlike *primal impression*, the retention *intends* the past. Unlike episodic memory, the retention presents the past; it does not merely re-present it. In Short, it provides us with a direct intuitive grasp of the just-past and is not a special apprehension of something present. [309]

Consequently, the temporality or temporal structure of consciousness consists of *retention-primal impression-protention*. Gallagher puts it beautifully when he says: "consciousness is the generation of a field of lived presence".[310] We should also distinguish between retention and protention, and recollection and expectation. Protention and retention are structural parts of every conscious act. They are involuntary and automatic. They are not subject of inspection. Along with *primal impression*, they are intrinsic aspect of consciousness. Recollection and expectation are cognitive voluntary acts, which presuppose retention and protention.

> If we compare retention with recollection, retention is an intuition, but intuition of something absent, of something which has just been, whereas recollection is is a representation of a completed past event…
>
> Retention and protention are invariant structural features that make possible the temporal flow of consciousness as we know and experience it. In other words, they are *a priori* conditions of possibility of there being 'syntheses of identity': if I move around a tree, for instance, in order to gain a fuller presentation of it, then the different profiles of the tree—its front, sides, and back—do not appear as disjointed fragments, but are perceived as synthetically integrated moments. Temporal synthesis is a precondition for the perceptual

[309] Gallagher, p. 77.
[310] *Ibid*, p.78.

synthesis with its entailed semantic integration. Thus, time-consciousness must be regarded as a formal condition of possibility for the perception of any object.[311]

The best way to think about the protention-primary impression-retention structure is postulate a self-organizing dynamical system.[312]

9.3.2 Introspective or self-consciousness:

knowledge of the empirical world must meet roughly some conditions. First, empirical consciousness must intend its object. Secondly, transcendental consciousness must apperceive the sense data and subsume the processed sense data under the categories of understanding and reasoning. In other words, apperceptive consciousness unites all elements of experience and grants ownership to the experience. In the third position, there must be a function that apprehends the experience and apprehends itself doing the manifestation simultaneously. This is introspective, or self-consciousness. It is also called attention. Consequently, self-consciousness provides the knowledge of the object and the knowledge that one knows the object. These two apprehensions occur simultaneously. Self-consciousness is the mediator between appercetive consciousness and perceptive consciousness. It is the immediate perceiver and observer of perception. Moreover, retrospective consciousness reveals mental states and their objects, and it observes all the changes that perceptive consciousness undergoes. Self-consciousness is the uninvolved *witness* of our experiences in the world. In those moments, when we can relate to our experiences in an objective manner, we become a *witness* to our acts, thoughts, feelings, and desires. In these moments, we have an immediate experience of retrospective consciousness.

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[311] Gallagher, p. 79.

[312] van Gelder, T., (1999) Wooden iron? Husserlian phenomenology meets cognitive science, in J. Petitot, F.J. Varela, J.M. Roy, and B. Pachoud (eds), *Naturalizing Phenomenology: Issues in Contemporary Phenomenology and Cognitive Science*, Stanford, CA, Stanford University Press.

Varela, F.J., (1999) The specious present: a neurophenomenology of time consciousness, in J. Petitot, F.J. Varela, J.M. Roy, and B. Pachoud (eds), *Naturalizing Phenomenology: Issues in Contemporary Phenomenology and Cognitive Science*, Stanford, CA, Stanford University Press.

9.3.3 Perceptive consciousness:

The process of perception is an act that achieves an identity between the subject and the object. This process commences with an intentional act of empirical consciousness, in which the mind *meets* the object through various sense organs. In this context, intentionality means that the mind comprehends an object as a whole in one continuous process. Hence, perception is *holistic*. Moreover, the underlying intelligibity and the implicate order of the object (really the process) is revealed by the intentional act of perceptive consciousness. This means that perception is always a meaning-giving act. We always perceive something *as* something. Furthermore, perception manifests the non-dual nature of transcendental consciousness underlying both subject and object by unifying the knower and the known.

At this point, let us examine the claim that consciousness can be intentional and self-reflexive or self-manifestive. Intentionality and self-reflexivity, or qualia, comprise two irreducible dimensions of consciousness. We propose degrees of intentionality and reflexivity. Reflexivity and intentionality are connected to each other in such a way that consciousness is self-manifesting insofar as it is intentional, and vice versa.

This view implies that my consciousness is only manifested to me and not to any other person. It also implies that my past consciousness is not manifested to me now, but it can only be inferred. So, consciousness is the foundation of memory. Consequently, a consciousness that is not intentional is not manifesting. However, it also implies that not all intentional consciousness is explicitly self-manifesting. This allows for the possibility of *subconscious* emotive, conative, and cognitive states. Conversely, there are reflexive states where intentionality is barely evident, such as awareness. Awareness is a reflexive state of consciousness, which possesses implicit intentionality.

All consciousness is reflexive. However, this reflexivity has degrees, which range from full lucidity to near indistinguishable awareness. In the cases of indistinguishable awareness, one is aware of the presence of something, while not knowing what that thing is. A subconscious desire would be an example of this case. Take the example of a patient visiting a psychiatrist for a vague sense, which makes the patient quite unhappy. After some therapy, the psychiatrist and the patient discover a subconscious belief, which lies at the root of the problem. The belief was all along there and causally efficacious. Hence, it

exists. However, it was minimally self-manifesting in an explicit way. In fact, neurosis can be classified as an impulse of mental states to manifest themselves explicitly in spite of suppression. This implies that *unconscious* or *subconscious* mental states do not lack consciousness, but they admit of a low degree of reflexivity, which can be increased through therapy and introspection. On the other end of the spectrum, emotive and conative states show low degree intentionality and high degree of reflexivity. These states are intentional nevertheless. The intentionality can be brought into a greater light through a process of introspection. Hence, self-consciousness illumines the unity of aspects of consciousness. In fact, the exercise of retrospective consciousness is the path of all wisdom. It is the basis of all meditation, yoga, and the maxim 'be a witness onto your life'. It provides the ability to transcend one's life and experience in the world; and decide whether one's life has the purpose, which would give, life the meaning one desires.

States of consciousness constitute a grade or continuum, in which the more a state of consciousness is intentional, the more reflexive and self-manifesting it is. In this format, cognitive states occupy top of the grade (most reflexive and intentional), subconscious state occupy the bottom of the continuum (least reflexive and intentional). The volitional and conative states occupy the middle part of the continuum.

At this point, we should revisit the relationship between the empirical and transcendental consciousness in light of the previous discussion. Mohanty expresses the relationship clearly:

> "I reject the two-world theory. Consciousness, in its innermost nature, transcendental—the same consciousness, which interprets itself, under strictly definable conditions as human, as biological and physiological, as bodily, as social, in brief, as empirical and the transcendental is usually drawn, which misleadingly suggests as though the transcendental subjectivity is not the subject's experience of herself. The other member of the pair, that is, the empirical, also misleadingly suggests that one experiences only oneself as bodily and as a member of the natural and social orders. 'Experience', as I have said earlier, is multilayered. I experience myself as bodily, as an existent *Dasein*, as a part of nature, as subject to external causality, but also a transcendental subjectivity. As transcendental, I am

also a cognitive, affective and willing, and acting, speaking and moving around, not a mere thinking ego."[313]

Up to this point, all our discussion of empirical consciousness has been limited to the level of waking consciousness. However, the waking consciousness is only one grade of experience. The mind also plunges in or soars to dream consciousness; and it finds rest in deep sleep consciousness.

We can analyze dream state in four different ways. These forms of analogy don't constitute a competitive but a complementary relationship. These present the different origins of dream state. According to the *presentative* theory, dreams are a type of perception. Dreams are the product of the mind in reaction to internal physiological transformations, from *subconscious* impressions based on experience rather than from the present action of the external sense organs. In this case, dream state resembles waking state in that in both instances the mind actively forms the perception and the experience. The two states differ, however, in that the contents of the dream state have no objective validity. The *presentative* theory describes dream experience as a direct perception of the mind independent of the sense organs. Although, the contents of the dream experience are false, dreams are experienced with the liveliness, immediacy, and certainty, which distinguish the waking and intentional perception. This means that while the content of dream experience is untrue, the dream experience is an empirically real fact. We can draw two important conclusions from the *presentative* theory. The first conclusion is that dream content is as coherent and reliable in its own realm as waking experience is to the waking subject. The second implication is that dream perceptual experience is as real as the waking perceptual experience in terms of phenomenology of both experiences.

The *representative* theory states that some dreams are the product of memory. This theory states that some dreams are caused by the recollection of some previously perceived external objects.

The *volitional* theory states that some dreams act as fulfillment of desires. This theory states that desires motivate the production of dreams. The Freudian dream analysis provides an adequate foundation for this theory of genesis of dream narrative. According to

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[313] Mohanty J. N., *The Empirical and Transcendental: A Fusion of Horizon*, edited B. Gupta, Lanham publishing, Maryland, 2001, p. 241.

Freud, dream content is composed of two dimensions. The latent content of a dream is the extension of the dream. It is the representation of those unconscious material, to which the narrative of the dream refers. The manifest content of the dream presents the intension of the dream, or the actual narrative presentation of the dream. Some wishes are obvious and non-threatening and can be expressed through the manifest content, as when we go to bed hungry and dream of eating our favorite dish. However, some dreams express wishes that want to be expressed through their latent content. In this case only proper dream interpretation can uncover their true meaning and the underlying desires. Latent contents of dreams express in symbolic language the desires of the individual.

The *veridical* theory states that dreams can have predictive and prophetic ability as well. This is not some magical quality of dreams as it was proposed by the ancients. The prophetic value of dreams can be the result of expression of repressed desires, which manifest themselves in a non-threatening way.

Deep sleep consciousness provides the third level of hierarchy of consciousness. Deep sleep is an undifferentiated and non-dual state of consciousness, which lacks mental activity. In the Kantian terms, deep sleep consciousness presents the transcendental unity of apperception in its concrete reality. Another argument for the consciousness of deep sleep is based on the argument, which asserts the ontological inherence of an effect in its cause. If deep sleep constitutes a discontinuous state with dream and waking states, then it becomes impossible to explain how unconscious body in deep sleep can generate consciousness in dreams and waking state. Hence, in order to guarantee the continuity of consciousness, deep sleep must be accepted to be an undifferentiated consciousness. Here, we argue based on the same principle of inherence of the effect in the cause. Next, we turn our attention to some preliminary thoughts about the nature of self.

9.4 More Thoughts on Processes:

So far we have implied that our understanding of concept of emergence requires inherence—meaning that what explicitly emerges must have been always already implicitly present. This requires us to determine what kind of stuff makes up the universe. We have said that the world is made up of processes? But of what are the processes comprised? We have answered this question preliminary by saying that the processes are made of energy,

force etc. However, this answer is not completely acceptable, since it does not tells what is the relationship of force and energy to mind and consciousness. Our commitment to the principle of inherence in relation to causality and emergence requires us to assume that what emerges out of energetic processes was already implicitly present there. However, we cannot prove that consciousness emerges from energy. Hence, we must posit that what makes up the world at its most fundamental level is a kind of Energy-Consciousness, a kind of non-dual existence which manifests itself as both energy and consciousness. This does not mean that the core of reality is comprised of a duality of both consciousness and energy, but what it means is that the core of reality is made of a nondual existence, which evolves, unfolds, into energy and consciousness. This is not dualism. Neither is this view monism. This is nondualism, which does not deny the existence of one feature of reality in terms of another. Neither is we trying to reduce one feature of reality in terms of another. We recognize the reality of both energy and consciousness, since they are two aspects of the same nondual fundamental being. Hence, it is vitally important to realize that we I do not promote a form panpsychism, which ascribes a form of mental consciousness to all existing things. According, to this view our form of consciousness is an emergent property of the evolutionary process of that nondual existence. On the other hand, we reject the notion that consciousness can emerge simply ex nihilo, because the preceding matter reached a certain level of complexity. Further intricacy and density cannot account for a qualitative jump in the evolutionary process. And the emergence of consciousness is a qualitative jump.

9.5 Some concluding thoughts about the self:

Mainstream philosophy has suffered from a lack of ability to place the self within its explanatory framework. This is a direct result of the adoption of substance ontology. The direct implication of treating selves as things is that the selves are assigned an essence. A person becomes a conglomeration of stable properties through time. This stability guarantees the identity through time. The obvious shortcoming of this formulation is the inability to account for change through time while preserving a sense of identity. Since change is an undeniable fact about the universe, the proponents of substance scramble to find a solution to this problem. The major two strategies are either to redefine identity, or to

deny identity of the person through time altogether. Neither of these two strategies provides a satisfactory solution to the problem. Redefining identity is nothing short of cheating. Identity is a clear concept within the framework of subject-predicate logic. One cannot commit to this logical system and then commence to redefine its concepts when they become inconvenient. The second strategy is equally unsatisfactory, because it goes against the phenomenology of self. This phenomenology cannot be easily dismissed as illusion, because of its immediate and intimate nature. There is no knowledge more certain and more immediate than the one has of one's existence; and this immediate knowledge gives me a sense of continuity of consciousness through time. I know that I have changed, but I also know that that change is superimposed on some identity.

Our immediate intuition of ourselves presents us with a processual view of ourselves. We see our selves as agents geared toward teleological actions. We act in a purposive manner to meet the challenges of a statement of requirements put forth by the world. Our actions are guided by our purposes, and they are informed by our history. This is a salient insight presented by the existentialist view of human existence, to which we will turn in the subsequent chapter. At this point, it suffices to say that humans exist processually. In fact, the etymology of the concept of existence implies processual being.

Human beings are processes. The identity of a person is the unity of that process, and the identity of a process is a function of lawfulness and temporality. In the case of human beings, the lawfulness is translated in terms of unity of experience and consciousness. The temporality is understood in terms of the historicity of human existence. Human existence at any present moment is a consciously united agency that is informed by his/her past and striving toward his/her future. Human existence like any other process is at once lawful and creative, and free.

We are the individuals that we are by the virtue of the macroprocess that unites the microprocesses that constitute one's history. This history is future oriented and the past informed. The unity of this macroprocess is a narrative unity of a life made coherent by a unity of experience. Dewey makes this point explicit in the following passage:

> "Take the individual Abraham Lincoln at one year, at five years, at ten years, at thirty years of age, and imagine everything later wiped out, no matter how minutely his life is recorded up to the date set. It is plain beyond the need of words that we then have not biography but only a fragment of it, while the significance of that fragment is undisclosed. For he did not

> just exist in a time which externally surrounded him, but time was the heart of his existence. Temporal seriality is the very essence, then, of the human individual. It is impossible for a biographer in writing; say the story of the first thirty years of the life of Lincoln, not to bear in mind his later career. Lincoln as an individual is a history; any particular event cut off from that history ceases to be part of his life as an individual. As a Lincoln is a particular development in time, so is every other human individual. Individuality is the uniqueness of the history, of the career, not some thing given once foe all at the beginning, which then proceeds to unroll as a ball of yarn, may be unwound. Lincoln made history. But it is just as true that he made himself as an individual in the history he made." [314]

According to this view, the unity of self is the unity of a megaprocess, which includes many microprocesses. These microprocesses are the events of one's life. Accordingly, the best way to define a person is as an agent in the world, and not a spectator of the world. This is a perspective that is existentialist in nature. It shows an affinity with Heidegger's view of a person as a temporal being, and Sartre's view of humans as self-defining free agents.[315]

Human history is processual as well. The life of a society, and a culture, is also historical. In that a society is Future oriented, but the ideals that prompt a society to look forward are informed, but not determined, by its Past. The life of a society is also a historic process; and progress is achieved through a dialectical mechanism. Societies evolve. This evolution is dialectical in nature and it is progressive. It is this crucial insight that is realized by Hegel, and missed by materialists and relativists. The existentialist view of individuals is in accordance with process metaphysics, but the existentialists underestimate the social process. This failure is one of oversight and obsession with individualism, and not fundamental metaphysical error. The compatibility of these views becomes apparent, once we place concrete universals at the core of our view of the world. The phenomenologist and the existentialist view of the empirical self is faithful to the process ontology. Hence, it must be incorporated in any view with the ambition to describe the empirical aspect of our existence.'

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[314] Dewey, J., *Time and Individuality*, in *Time and its Mysteries*, ed. H. Shapely, Collier Books, New York, p. 146.
[315] Raymond, *Existentialism and the Philosophical Tradition.*

One last question that I feel compelled to address is why not assume the Russellian 'neutral monism' view and dispense with all this. I will get into this point shortly and point my agreement and disagreement with Russell's view.

According to Russell, realism is fundamentally is rooted in dualism. Subsequently, there exist minds and a sovereign world of objects, which the minds perceive and conceive. We could simplify this by saying that there are minds and there are sense data. However, the question remains of what happens to the 'I', which meets the sense data. In other words, the question of subjectivity and consciousness remains open. Russell states:

> "Sensations are obviously the source of our knowledge of the world, including our own body. it might seem natural to regard a sensation as itself a cognition, and until lately I did so regard it…This view, however, demands the admission of a conscious subject, or act of awareness…I f there is a subject, it can have a relation to the patch of colour, namely, the sort of relation which we might call awareness. In that case, the sensation, as a mental event, will consist of awareness of the colour, while the colour itself will remain wholly physical, and may be called sense-datum, to distinguish it from the sensation. The subject, however, appears to be a logical fiction like mathematical points and instants. It is introduced, not because observation reveals it, but because it is linguistically convenient and apparently demanded by grammar. Nominal entities of this sort may or may not exist. But there is no good ground for assuming that they do. The functions that they appear to perform can always be performed by classes or series or other logical constructions, consisting of less dubious entities. If we are to avoid a perfectly gratuitous assumption, we must dispense with the subject as one of the actual ingredients of the world." [316]

Thus, according to Russell, we can close the dualistic rift plaguing realism by eliminating subjectivity. Consequently, the dualistic separation of the mental and the non-mental is resolved. This is, however, not eliminative materialism, which we met previously. Russell proposes that the universe is fundamentally made of a "neutral stuff". This neutral stuff gives rise to both physical objects and minds. In other words, Russell proposes a double aspect theory with matter and mind as the emergent product of a neutral stuff. However, the mind in this case is devoid of consciousness and subjectivity, since these are useful fictions of grammar and the products thereof. I find Russell's view both extremely useful and

[316] Russell, B., (1959), *My philosophical development, with an Appendix: Russell's Philosophy*, ed. Wood, A., Simon and Shuster, New York, pp. 11-12.

extremely troubling. I agree with him in his postulation of a double aspect theory. I believe that is the ultimately the solution to the mind/matter problem. However, I find Russell's view very troubling, because he proposes a consciousness-less mind. If consciousness is a linguistic illusion and there are only minds, then question is what is the problem. What makes this problem so intractable is subjectivity. Moreover, what is mind without consciousness? Here, Russell assumes implicitly a form of functionalism, which will be subject to the same objections as other forms of functionalism. Furthermore, if one assumes functionalism to be the correct theory of mind, then why do we need a double aspect theory. This seems to be at best frivolous and at worst contradictory. What makes the double aspect approach indispensable is preciously the assumption the there is a subjective consciousness along with physical stuff and both are equally real. The last problem with Russell's view is that he simply relegates consciousness to an illusion of grammar. However, he never goes into the Kantian form of inquiry of what are the pre-conditions that make the self- reflexivity in grammar possible. In other words, what are the transcendental states that make self-reflexivity possible. The answer, in short, seems to be that self-reflexivity is made possible by consciousness, transcendental unity of apperception, and self-consciousness that Russell eliminates. The last point is that by proposing a double aspect theory is taking over James' ideas, which he freely admits:

> "You all know the American theory of neutral monism, which derives really from William James and is also suggested in the works of Mach, but in a rather less developed form. The theory of neutral monism maintains that the distinction between the mental and the physical is entirely an affair of arrangement, that the actual material arrangement is exactly the same in the case of the mental as it is in the case of physical, but they differ merely in the fact that when you take a thing as belonging in the same context with other things, it will be belong to psychology, while when you take it in a certain other context with other things, it will belong to physics, and the difference is as to what you consider to be its context…It is just like rows or columns: in an arrangement of rows and columns, you can an item as either a member of a certain row or a member of a certain column; the item is the same in the two cases, but its context is different.
>
> As an example, consider…the appearance that a chair presents. If we take any one of these chairs, we can all look at it, and it presents a different appearance to each of us. Taken all together, taking all the different appearance that that chair is presenting to all of us at this

> moment, you get something that belongs to physics. So that if one takes sense data and arranges it together all those sense data that appear to different people at a given moment and are such as we should ordinarily say are appearance of the same physical object, then that class of sense data will give you something that belongs to physics, namely the chair of this moment. On the other hand, if instead of taking all the appearances that that chair presents to all of us at this moment, I take all the appearances that the different chairs in this room present to me at this moment, I get quite another group of particulars. All the different appearances that different chairs present to me now will give you something belonging to psychology, because that will give you my experience att he present moment. Broadly speaking…that should be the definitions of the differences between physics and psychology…
>
> There is no simple entity that you can point to and say: this entity is physical and not mental. According to William James and neutral monism that will not be the case with any simple entity that you may take. Any such entity will be a member of physical series and a member of mental series…
>
> I ought to proceed to tell you that I have discovered whether neutral monism is true or not, because otherwise you may not believe that logic is any use in the matter. But I do not profess to know whether it is true or not. I feel more and more inclined to think that it may be true." [317]

So the question seems to be whether consciousness exists under James' view.

James urges us to go back to pure experience and with 'pure' he means devoid of traditional metaphysical presuppositions. If we do that, then we se that we find that no such distinct thing as consciousness exists. As a result, the gap between the mental and material will disappear. In this, it seems Russell and James agree.

> "To deny plumply that "consciousness" exists seems absurd on the face of it—for undeniably "thoughts" do exist—that I fear some readers will follow me no farther. Let me then immediately explain that I mean only to deny that the word stands for an entity, but to insist most emphatically that it does stand for a function. There is, I mean, no aboriginal stuff or quality of being, contrasted with that of which material object are made, out of which our thoughts of them are made; but there is a function in experience which thoughts perform, and for the performance of which this quality of being is invoked. That function is *knowing*. "Consciousness" is supposed necessary to explain the fact that things not only are,

[317] Russell, B., (1924), *Logical Atomism*, in the *Contemporary British Philosophy*, ed. Muirhead, J.H., Macmillan, New York, p. 359.

> but get reported as known. Whoever blots out of notion of consciousness from his list of first principles must still provide in some way for that function's being carried on.
> My thesis is that if we start with the supposition that there is only one primal stuff or material in the world, a stuff of which everything is composed, and if we call that stuff "pure experience", then knowing can easily be explained as a particular sort of relation toward one another into which portions of pure experience my enter. The relation itself is a part of pure experience…
> As "subjective" we say that the experience represents; as "objective" it is represented. What represents and what is represented is here numerically the same; but we must remember that no dualism of being represented and representing reside in the experience per se. in its pure state, or when isolated, there is no self-splitting of it into consciousness and what the consciousness is "of". Its subjectivity and objectivity are functional attributes solely, realized only when the experience is "taken", i.e., talked-of, twice, considering along with its two differing contexts respectively, by a new retrospective experience, of which that whole past complication now forms the fresh content."[318]

It seems like James has retained Kant's fundamental idea that experience is a creation of a stable world from the material sense data. However, he as rejected Kant's notion of synthetic a priori and the transcendental unity of apperception. The rejection of transcendental unity of apperception is the reason that he rejects consciousness as functionless and fictive. However, transcendental unity of apperception is precisely the function of consciousness in its pure form. It can never be a content of experience, but it is what makes all experience possible. Therefore, a proof for its existence cannot be empirical but only transcendental. For James, experience does not require universal and necessary structure.

[318] James, W., (1971), *Essays in Radical Empiricism*, ed. Perry, R. B., Dutton, New York, pp. 4-5, 8-9, 15.

Chapter Ten
Concluding Remarks

My purpose to embark on this project was to examine the question of nature of consciousness analytically and historically. I was interested to find out why most of theories of consciousness fail. Is this failure the product of philosophers being simply disagreeable with each other? Or is this failure the result of something more substantial and fundamental. Consequently, I came to examine the commonality of all these theories. My conclusion was that all these theories fail, because they all share a common presupposition. They assume the same ontology and they diverge on the emphasis they put on different aspects of this ontology. The ontology they all assume is the substance ontology, meaning that they assume is made of substances. They use different terminology for the same notion of substance. However, they all assume that the world is constituted of concrete particulars logically independent of each other, which stand in causal relationship to each other. My contention with this view was that it should not be given primacy in our ontological paradigm. Moreover, there is no place for an efficacious consciousness in this worldview. Either one has to eliminate consciousness, or to reduce it to some other phenomenon and label our experience as misguided, or to strip it off any causal efficacy, or assume its efficacy but an overdetermination. Hence, I began by examining each theory in turn and in depth. My purpose was to leave no stone unturned, and exhaust the logical realm of all substance based theories of mind and consciousness. My strategy was to show the falsity of the primacy of the substance ontology by showing the failure of the theories of mind and consciousness based on this ontology. Then I could motivate a shift in our ontology and require us to accept a new approach. This new approach was nothing that I had to invent myself. The correct approach was to be found in the history of philosophy itself, in what to be considered the fringe and exotic theories that have gone against the mainstream philosophical tradition.

The oldest and most decisive ontological dispute in philosophy was not between Plato and Aristotle, but it was between Parmenides and Heraclitus. Parmenides proposed substance ontology and Heraclitus maintained process ontology. The subsequent disputes in metaphysics are a consequence of this dispute. Parmenidian substance ontology was

destined to become the mainstream philosophy and Heraclitus was destined to become the cry in the wilderness that processes make up the essence of the world and not substances. Plato tried to consolidate these two traditions, but assigned different values to each. He assigned process ontology to the world of appearance and substance ontology was given the realm of true being. Hence, he introduced an axiological gap and dualism, while he was trying to give a unified ontological account. In doing this he undermined his own effort. This was recognized by Aristotle, who was really a process ontologist in spite of his terminology of substance and causality. For Aristotle, causality was manifold and dynamic and it should encompass what we consider a cause plus the function of a phenomenon, and its purpose. Substances for him were self-organizing systems guided by an inner program called enetelechy. The Aristotelian ontology as we know it was product of a radical substantialist reading and commitment by Thomas Aquinas in the middle ages, who needed the rigor of Aristotle's method to put forth a notion of souls in the Christian theology.

In the modern times, process metaphysics was proposed by some philosophers and was assumed in some other philosophies. What hey all have in common is that the mainstream philosophy at worst rejected them without really examining them or at best they were labeled as eccentric. In this tradition fall Hegel, Schopenhauer, Bergson, Nietzsche, Kierkegaard, Whitehead, Brentano, Husserl, Heidegger, Sartre, Merleau-Ponty, the phenomenological and the existentialist traditions, among others. It is in the works of them that the right approach was to be found.

The function of consciousness was already described by Kant. He proposed that consciousness plays a synthetic function in that it makes all subjective experience possible. It is not to be found in the content of experience, but it makes experience possible. Hence, it is transcendental. He was also the first one, who differentiates between mind and consciousness. He gives a functionalist account of mind, but he assigns a transcendental role consciousness. Whitehead gave us a clear way of thinking about process as opposed to substances. Heidegger, Sartre, and other phenomenologist gave us a different way to think about embodied minds and consciousness. They showed us how to understand mentality and the person contextually and told us that these are fundamental aspects of them. Moreover, we learned dealing with temporality, intentionality and qualia is not optional, but they are essential in our understanding of consciousness.

Modern theories of cognitive science further illuminate the path for us. The dynamic systems theory gives us a new perspective on how to think about perception, mind, and embodiment.

Synthesizing all these elements was the purpose and the inspiration of my work in order to show the way for a new approach to understand the world, man, mind, and consciousness. Accordingly my view can be summarized as such:

1. The world is primarily made of processes.
2. These are inherently temporal, lawful, and creative.
3. Human existence, mind, and consciousness are also best understood as a process.
4. Consciousness is a process as well
5. Consciousness is essentially temporal, intentional, and self-luminous (i.e. qualitative).
6. Consciousness should be functionally distinguished between apperceptive and perceptive aspects.
7. Apperceptive function of consciousness is to act as the underlying principle, which makes all experience possible, since it unifies sense data temporally and meaningfully.
8. Perceptive consciousness guides our interaction with the world through intentionality in that we confront the world as a referential totality of meaningful objects and projects. This is our primary mode of interaction with the world.
9. We are primarily agents in the world, who interact with the world as referential totality. We understand the world secondarily through causality as spectators.

I will conclude this work with a quote from Nietzsche, which captures the inspiration behind this work.

> "And do you know what "the world" is to me? Shall I show to you in my mirror? This world: a monster of energy, without beginning, without end; a firm, iron magnitude of force

that does not grow bigger or smaller, that does not expend itself but only transforms itself; as a whole, of unalterable size, a household without expenses or losses, but likewise without increase or income; enclosed by "nothingness" as by a boundary; not something blurry or wasted, not something endlessly extended, but set in a definite space as a definite force, and not a space that might be "empty" here or there, but rather a force throughout, as a play of forces and waves of forces, at the same time one and many, increasing here and at the same time decreasing there; a sea of forces flowing and rushing together, eternally changing, eternally flooding back, with tremendous years of recurrence, with an ebb and a flood of its forms; out of the simplest forms striving toward the most complex, out of the stillest, most rigid, coldest forms toward the hottest, most turbulent, most self-contradictory, and then again returning home to the simple out of this abundance, out of the play of contradictions back to the joy of concord, still affirming itself in this uniformity of its courses and its years, blessing itself as that which must return eternally, as a becoming that knows no satiety, no disgust, no weariness: this, my Dionysian world of the eternally self-creating, the eternally self-destroying, this mystery world of the twofold voluptuous delight, my "beyond good and evil," without goal, unless the joy of circle is itself a goal; without will, unless a ring feels good will toward itself…" [319]

[319] Nietzsche, *The Will to Power*, p. 549.

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