CHAPTER II

MAIN CHALLENGES
BEFORE CARRUTHERS’ PROJECT

2.1. The State of Art in Cognitive Science

Carruthers claims that his theory will meet many of the challenges put forward by a variety of theories of consciousness. An important feature of his work is thus a considered response to the host of the theories of mind, self consciousness and phenomenal consciousness. In the first chapter, we have already given a thorough appraisal of naturalistic theories of consciousness. The present chapter is devoted to an account of the many major challenges that are before Carruthers naturalistic theory of consciousness; challenges varying from mysterianist to connectionist and evaluate Carruthers’ responses to these challenges. In other words, what are the challenges? Or what are the obstacles in the way to develop a naturalistic theory? How best Carruthers overall outlooks can meet all them? are the questions which are addressed in this chapter.

In recent cognitive science research, there is an upsurge of interest in consciousness studies and the world witnessed publication of some scholarly articles and books in cognitive sciences, which is the result of researches on mind, brain and consciousness based on complex representations and computational procedures. Works that are great significance to Cognitive Science came to light much earlier. But it is only in the mid-1950’s cognitive science as the “disciplinary clusters” of cognitive psychology, artificial intelligence, and cognitive neuroscience originated. As Blackwell dictionary of cognitive psychology defines “cognitive science is the interdisciplinary study of acquisition and use of knowledge and it included as contributing disciplines, artificial intelligence, psychology linguistics, philosophy anthropology neuroscience and education”1. This particularly interdisciplinary
character is benefit of cognitive science. But the different disciplines approach the problems of cognitive science from diverse perspectives with their specific tools and it may often turn out to be incommensurable with other disciplines. In such a situation, unless the researchers show significant broadmindedness towards other disciplines and researchers; it is not possible to integrate them into the state of art. Cognitive science tries to unravel problem related to consciousness through psychological statistical studies and case studies of consciousness states and the deficits caused by leisons, stroke, injury or surgery that prevent the normal functioning of human senses and cognition. These studies proved that the mind is a complex structure derived from various localized functions that are bound together with a unitary awareness.

Our sense organs make available us concrete, limited and confused information, but knowledge of world is extremely structured; how it is possible? There is an unbridgeable gap between these two realms. The rationalist approach says that the most significant things we know were there to begin with planted innately in our minds. The empiricist approach says that although it looks as if our knowledge is far indifferent from our experience, it isn’t actually. These two perspectives are complementary and opposing at the same time and philosophy and psychology often appear to exchange between one view and the other. Rationalists can explain the abstract, complex, nature of our knowledge quite well, but they can’t explain, and so deny, the fact that we learn. Empiricists can explain the fact that we learn, but they can’t explain, and so deny, the fact that our knowledge is so far removed from our experience.

The credit of this foundational idea of cognitive science goes to Chomsky. Chomsky’s view is a species of “cognitive naturalism”; the suggestion is that knowledge of the mind can be comprehended by scientific research. The crucial idea now at the heart of cognitive science is that scientific explanations engage representations and rules that characterize
the cognitive capacities of human minds; they are the theoretical entities of cognitive psychology. The greatest successes in cognitive science have been in domains that Chomsky didn’t himself investigate, particularly vision using methods, psychological experimentation, comprehensive computational modeling, and, most recently, neuroscience, that he has eschewed. There were other previous sources for this idea, too, including Piaget and the Gestalt psychologists.

Flanagan has proposed that there is a “natural method” to go about understanding consciousness that involves creating a science of mind. Three key elements of this developing science are: 1) paying attention to subjective reports on conscious experiences, 2) incorporating the results from psychology and cognitive science, and 3) including the results from neuroscience that will reveal how neural systems produce consciousness. One of such alternative is to study consciousness is neuro-phenomenology which is an interdisciplinary scientific methodology that unites neuroscience with phenomenological philosophy. Since phenomenology deals with the subjective aspects of first-person experience, neuroscience certainly is the study of the brain, and deals with the objective and third-person aspects of consciousness, suggesting that invariant patterns and structures discovered in first-person explorations of consciousness may find their explanation in the physiology and functioning of the brain. It seems Carruthers also subscribes to such a method. The most promising direction in re-approaching consciousness involve rethinking epistemology and conceptual schemes to yield a cross-fertilization of the first-person and third-person perspectives, which would permit theorizing about the causal efficacy of how consciousness feels and the phenomenal quality of what consciousness does.

Patricia Churchland says “…. that it would be wisest to conduct research on many levels simultaneously, from the molecular, through to networks, systems, brain areas, and of course behaviour. Here, as elsewhere in science, hypotheses at various levels can co-evolve as they correct and inform one another”. So
it is clear that cognitive science as disciplinary cluster of mind and consciousness imply that complete understanding of the mind/brain cannot be attained by studying any one level. By studying a particular phenomenon from multiple levels, we are better able to understand the processes that occur in the brain to give rise to a particular behaviour.

Over the past few decades almost the complete conceptual vocabularies of common sense psychology have been resurrected. Nowadays, it is associated with empirical findings and the theoretical models resulted from scientific research. Cognitive science is a vast region that comprises of plethora of issues on different aspect and features of cognition. Recently, the topics like social and cultural factors, emotion, consciousness, animal cognition, comparative and evolutionary approaches have acquired much consideration in cognitive sciences. Some cognitive scientist, however, consider these to be crucial topics, and sympathize with them. In any way, the fundamental questions of cognitive sciences include: What is intelligence? and How is possible to model it computationally? etc. So cognitive sciences include following key topics such as; artificial intelligence, attention, language processing, learning and development, memory, perception, action etc. As this field is highly interdisciplinary research, it often cuts across multiple areas of study, drawing on research methods from psychology neuroscience, computer science and system theory. Behavioural experiments (reaction time, psychophysical responses, eye tracking) brain imaging techniques (like SPECT, PET, EEG, fMRI, MEG optical imaging), computational modeling, and neurobiological methods are certain methods of study in cognitive science.

There are several method to the study of cognitive science. These approaches may be classified broadly as symbolic, connectionist, and dynamic systems.
Symbolic: - holds that cognition can be explained using operations on symbols, by means of explicit computational theories and models of mental (but not brain) processes analogous to the workings of a digital computer.

Connectionist (sub symbolic) - holds that cognition can only be modeled and explained by using artificial neural networks on the level of physical brain properties.

Dynamic Systems - holds that cognition can be explained by means of a continuous dynamical systems in which all the elements are interrelated, like the walt governer.

Emulator Systems (Neural Engineering Models) universally help us to construct self- models with an engineering design.

Critics argued that human minds work by representation and computation is an empirical hypothesis and might not be correct. Searle argues that cognitive science’s computational representational approach is fundamentally mistaken. Critics of cognitive science have offered such challenges as cognitive science does not pay attention to the significant role of emotions, consciousness and physical environments in human thinking. There is no evidence to say that the inherent nature of thought is constructed by society is neglected by cognitive science. The mind is a dynamical system with a body mind world and even language integrated together in a circle but get acts very much like a computational system. The computational-representational approach cannot be deserted and all these challenges can be explained by this method.

Recent research in this area considers philosophy as continuous with psychology. So much so that the celebrated naturalistic perspective argues philosophy of mind is connected with theoretical and experimental work in cognitive science. A-priori speculation is not the only the method to reach metaphysical conclusions about the nature of mind; but the scientific developments in fields such as computer science and neuroscience give
their share in this regard. It is argued that epistemology depends on the research related to mental structures and learning procedure rather than mere conceptual exercises. Carruthers also shares this view, but modifies them into a greater extent.

A major question in the study of cognitive development is the extent to which certain abilities are innate or learned. This is commonly framed in terms of the nature versus nurture debate. From the nativist or rationalist point of view, certain features are innate to an organism and are endowed by its genes. It has been suggested by the empiricists, that certain abilities are learned from the environment. Without confusion, we can argue for the claim, that intelligent behaviour has components that are both innate and learned, but the extent to which particular behaviours are a frontier area of research. In the area of language acquisition, for example, many questions remain unanswered like: whether or not a special language acquisition mechanism is essential to smooth the way for the learning of language, or if humans can learn language through more general learning processes that take advantage of the information available in the environment etc. Much discussed philosophical problems now form the crux of cognitive science are stated as follows;

To what extent is knowledge innate or it is completely acquired by experience? Is human behaviour is inborn or shaped by its environment? Does human brain operate with a computational or with connectionist framework? Is there any relation between these two? What are the vehicles of thought? Is it mere visual or other kinds of images? Or is language counted as the only vehicle? Whether commonsense psychology identical with having a theory of mind or of merely simulation? Are mental states brain states? Or can they be multiply-realised in other material states? What is the relation between psychology and neuroscience etc.

“Consciousness is what makes the mind-body really intractable. Without consciousness, the mind-body problem would be much less
interesting with consciousness, it seems hopeless”⁹. Searle defines consciousness as follows “by consciousness I simply means the subjective states of awareness”¹⁰. According to Block consciousness even non-reductionism needs scientific backing. He says consciousness is a mongrel concept¹¹ and there are different notions of consciousness such as access consciousness and phenomenal consciousness. Conscious experience is the greatly confusing within the controversial crux of psychological sciences like psychology and neuro-psychology. Current research on consciousness has given rise to fruitful discussion in the philosophy of mind and it seems research relating to the nature of consciousness often cross cutting disciplinary restrictions. Philosophy of psychology attempts to explore issues, such as which are the theoretical foundations of modern psychology, what is cognitive module? What is innateness? Whether human beings are actually rational or not?

Phenomenal consciousness or subjective aspect of consciousness represents one of the more intractable problems in the crossroads of the philosophy of mind and cognitive psychology. This is the concept of consciousness that leads us to speak of an explanatory gap. It is believed that phenomenal constitution of experience entered in philosophical thought through Kant, who commenced it in the background of refusing the sensational theory of experience related with traditional empiricism. There is an array of metaphors of the mind. The mind has been metaphorically described as an aviary, a telephone switchboard, a ghost in a machine, and a computer—to name but a few. Bernard Baars,¹² adds his own metaphor to this admired list, and considered mind as working theater. Baars argues for the aptness of his theater metaphor by showing how it can be used to tell “a unified story” of all the currently available scientific data on consciousness. It is argued that Baars’ Theater Metaphor is not entirely apt, that once it is unpacked, it suggests a certain relation between consciousness and attention that does not appear to be supported by the currently available data.¹³ There are so many theories try to explain phenomenal consciousness.
A famous neurological theory defended that coordinated 35-to 75-hertz neural oscillation in the sensory areas of the cortex is responsible for the phenomenally conscious mental state and it is believed that this information have the capacity to explain away the so-called binding problem\(^{14}\) (how neurons are binding together to form a unity of consciousness.

Critics argued that the various versions of functionalism appear incapable to take hold of full spirited consciousness. As a brand of functionalism or theory-theory Carruthers' model faces this challenge. It is criticized that recognized models of mind emerging from artificial intelligence studies are generally silent on phenomenological qualia; characteristic of perhaps necessary to, human and possibly all natural intelligence. Theorists like Rorty\(^{15}\) mentioned about the 'raw feeling' of consciousness imparted to us by our erroneous Cartesian forerunners and which indicate a dualistic psychology of mind and body; and now best discarded by the growing scientific theory of thought. Thinkers like Dennett, \(^{16}\) try to renovate consciousness and provide it with a significant place in a multiple draft vie of consciousness (our consciousness is just like multiply drafted neutrons). He says that the notion of qualia ‘fosters nothing but confusion and refers in the end to no properties or features at all.\(^{17}\) The ontological status of phenomenal consciousness can be approached from different view points such as substance dualism, reductionism, eliminativism etc.

Even though there are so many pacesetters in the area of cognitive sciences, Carruthers’ theory may be the most recent in the series of approach to the hard problem (or harder) of phenomenal consciousness, and we propose it as one of the most promising alternatives. Carruthers’ theory is known as Dispositionalist Higher-Order Thought Theory of phenomenal consciousness. On this view, in order to enjoy a phenomenally conscious experience, we have to engage an analog representational state that is available to a higher-order thought ability. He argues that dispositionalist higher-order theory can bridge the notorious explanatory gap,
launched by Levine (1983), who maintains that our functional or physical nature is not adequate to elucidate our subjective part of experience. Carruthers depicts remarkable group of arguments and opposite positions throughout the development of his naturalistic account. He meets head on the mysterian arguments, which argues that phenomenal consciousness is an irreducible notion of consciousness, which poles apart from the physicalist world outlook. The mysterianist claim that no materialist theory is adequate to provide an explanation of phenomenal consciousness, neither the first-order representation theory nor the higher-order representation theory is part to silence in a characteristic way by the naturalistic approach.

In order to bring about a comprehensive account of a naturalistic theory, Carruthers has to confront many challenges. The most important challenges before his theory are as follows;

1. The mysterianist challenges
2. The eliminativist challenges
3. The anti-realist challenges
4. The connectionist challenges

2.2. Nagel on Perspectival or First-Personal Facts

Of the many challenges Carruthers has to meet the most important one is from the sectarian argument of Mysterianist. The hypothesis of mysterianism is that the subjective feel of consciousness can neither have room within the physicalist world view; nor could it have a reductive explanation in physicalistic vocabulary. Owen Flanagan classifies different philosophical positions on consciousness as non-naturalism, principled agnosticism, anti-constructive naturalism, eliminative naturalism and constructive naturalism etc\(^\text{18}\). Mysterianist are non-naturalist and non-reductionist in nature. They defend the view that consciousness is irreducible phenomenon. The mysterianist argues that phenomenal consciousness generates a particular trouble to materialism or functionalism. In other words, it is argued that the felt nature of conscious experience is
inexplicable from the standpoint of functionalism and materialism. It is argued that some mental state seems to be conceptualized in terms of feel and the belief about causal role has only a secondary importance. There is something that it feels like to be subject of conscious perception. On this at least there is common conformity. But there is significant divergence regarding the ontological and epistemological status of such phenomenal feelings. Notable defenders of the cognitive closure thesis are Thomas Nagel, Frank Jackson and Colin McGinn. They stand for the claim that phenomenal aspect of experience has no place in physicalist ontology. Nagel mentions the possibility of cognitive closure of the subjective aspect of experience and the implications that it has for materialist reductionist science. Peter Carruthers argues against mysterianists’ claim that our phenomenal consciousness is non-physical and/or epiphenomenal or that its physical nature is intrinsically closed to us. He rejects any attempt to give a neurological explanation of phenomenal consciousness. For him, such an attempt would be a jump over too many explanatory levels at once.

Carruthers classifies these mysterian arguments into two groups; metaphysical arguments and epistemic arguments. The first group of thinkers argued that consciousness is intrinsically mysterianist while the second group stands for the view that consciousness is hard problem and it is one of the final frontiers of science. Thinkers like Churchland and Daniel Dennett argue that; explanatory gap can be closed and other faction of thinkers like, Nagel, Searle, Jackson, McGinn and Chalmers claim that the explanatory gap cannot be closed. Nagel's claim is that explanatory adequacy of physics is not an apparent truth. For him, the present day psychology and neuroscience provides us with "no general explanatory theory" that is no “real understanding” of the relation between the mind and brain can be gained from them. For McGinn, the real problem of phenomenal consciousness exists there in the explanatory gap between objective or felt properties, and he presupposes that answer to this problem is cognitively closed to us. Chalmers maintains that there exist an
unbridgeable gap between phenomenal consciousness and the rest of the world. Carruthers’ aim is to close the so-called explanatory gap. Let us analyse these arguments one by one.

Thomas Nagel is the man who is responsible for putting the problem of phenomenal consciousness in the right track. Thomas Nagel argues for the individuation of facts. He writes “we have at present no idea of how a particular event or things have both physical and phenomenological aspect or how if it did they might be related”. As Daniel Dennett (1991) claims, Nagel’s argument is regarded as ‘[t]he most widely cited and influential thought experiment about consciousness’. Nagel argues along the same line as Levin that there is an explanatory gap between physical and phenomenal aspect of a particular mental event. Nothing in the non-mental reality seems suited to explain what it is for a mental state to be conscious and the gap between mental and physical seems unbridgeable primarily in respect of consciousness. Nagel argues that in order to know the subjective nature of a bat’s phenomenal experience we would need to share a bat’s ‘point of view’. However, he contends, a bat’s sensory machinery is so fundamentally diverse from ours that it appears impossible for us to have that point of view. Therefore, he concludes, we seem unable to know ‘what it is like to be a bat’. Thomas Nagel shows a general obscurity relating to the description of phenomenal consciousness. Nagel argued that consciousness may be explainable by appeal to as yet un-discovered fundamental, non mental, non-physical properties that which labeled as ‘proto-mental’ properties. Reductionism proposes to analyze mental phenomenon and mental concepts designed to explain the possibility of some variety of materialism, psychological identification or reduction. For Nagel, the common examples which are proposed by reductionism to support reduction of mental do not help us to understand the mind-body problem. He points out that they are unrelated examples. Carruthers shares with Nagel the phenomenal realism. But for him, this phenomenological
subjective point of view can be explained through third-personal terms or
cognitive terms.

If we try to imagine, what it is like for a bat to be bat, we are restricted
to inadequate recourses of our own mind. Subjective character of other
organism is beyond our ability to conceive. Nagel’s realism about subjective
domain in all, its forms implies a belief in the existence of facts beyond the
reach of human concepts. These are metaphysical concepts. Reflection on
‘what it is like to be a bat’ aspect leads us to the conclusion that there are
facts that do not consist in the truth of propositions expressible in the human
language. There are three stages in which Thomas Nagel’s argument is
advanced against the naturalistic reductive explanations of phenomenal
consciousness they are as follows

a) What it is like to be a bat?
b) The scientific view is view from nowhere
c) Irreducibility of ‘myness facts’.

a) **What it is like to be a Bat?**

Nagel’s notion of what it is like to be a bat has been so influential role
in arena of consciousness studies and it seems a wild card of consciousness
studies. Nagel’s argument for intractability of consciousness runs as follows
“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”23. As Nagel argues, mental state being conscious means that there
is something it is like to be in that state. Nagel uses it as an intuition pump
argument for stating subjectivity rather than as a tool to talk about qualia. He
point out that we could know the physiology of a bat’s sonar sense and still
do not know ‘What it like to be a bat’. We could not know what the bat’s
sonar experience feels like for it. For him, there must be some thing which it
is like to a bat and only someone who has had echolocation experience
(experiences relevantly similar to those involved in echolocation) can know
what it is like to be a bat, i.e. only those who have a particular kind of
subjective constitution or who occupies a certain sort of subjective perspective on the world can know what it is like to a bat. Nagel argues that in order to know the subjective nature of a bat’s phenomenal experience, we would need to share a bat’s ‘point of view’. However, he contends, a bat’s sensory apparatus is so fundamentally different from ours that it appears impossible for us to have bat’s point of view. Therefore, he concludes, we seem to be unable to know ‘what it is like to be a bat’. So Nagel seems to claim that there are certain facts which can only be known by those who possess a subjective perspective, implying that there exist two different kinds of facts subjective and objective facts. As Nagel argues there is something it is like to have sensation of a particular type is different from what it is like to have a sensation of any other type. What makes a pain really a pain is its subjectivity or qualitative nature. Put it in other way, sensations and feelings are individuated in terms of their qualia. “If physicalism to be defended the phenomenological features must be given a physical account”\(^{24}\). “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 that point of view”\(^{25}\).

b) The View From Nowhere

Nagel says that “it would be a mistake to conclude that physicalism is false, it would be truer to say physicalism is a position we cannot understand because we do not at present have any conception of how it might be true”\(^ {26}\). He adds that “we have at present no conception of how a single event or thing could be both physical and phenomenological aspects or how if it did they might be related”\(^ {27}\). The subjective character of experience is fully comprehensible from only one point of view. “Therefore any shift to greater objectivity ---that is less attachment to specific viewpoint --does not take us nearer to the real nature of phenomena: it takes us further away from it”\(^ {28}\).
The subjective character of experience is not captured by any of the familiar; recently devised reductive analyses of the mental, for all of them are logically compatible with its absence. It is not analyzable in terms of any explanatory system of functional states or intentional states, since these could be ascribed to robots or automata that behaved like people, though they experienced nothing\(^\text{29}\).

Nagel points out that the so-called scientific view represents the world from no particular point of view. He criticized the standards on which the objectivity of science based and says that objective explanations do not depend upon particular perspective. The scientific view is a objective view and this is an impartial third-personal view of world. The subjective view of world is a first-personal aspect of the experience and views world as it appears to one self. For Nagel, the objective explanation and subjective explanation are only two ways of viewing the world. For Nagel, the scientific view of world is ‘view from nowhere'. Science may able to give a complete objective picture of brain events, but it cannot provide a correct picture of subjective feel or phenomenal consciousness of an experience. Subjective facts are both invisible and inexplicable by science. Nagel’s view is that consciousness may be explainable only by appeal to as yet undiscovered fundamental non-mental, non-physical properties; Which is labeled by him as ‘proto-mental properties’. Since the scientific explanation of the world tries to provide an objective description of the world and the process which take place within it, is called the view from nowhere. For Nagel, one of the important features of our experience is it possess a particular perspective. As Nagel has claimed, regarding scientific explanation, the subjective perspective and subjective facts form a set of inexplicable facts. Science cannot account for the subjective aspect or phenomenology of experience. Nagel’s argument is based on a prevalent worry among contemporary physicalists that the phenomenal feature of the world might necessarily remain physically or objectively uncharacterized. Nagel claims, ‘If physicalism is to be defended, the phenomenological features must
themselves be given a physical account. But when we examine their subjective character, it seems that such a result is impossible since ‘every subjective phenomenon is essentially connected with a single point of view’.

Here are two types of concepts. Firstly there are concepts which are using for explanatory purposes. The aim of this explanation is to how the world is causally interacting with one another. Secondly, there are concepts which are constructed out of our daily sensory interaction with the world. The difference between these two concepts is that the former concepts can be grasped from a third-person perspective; while the latter cannot be. Nagel argues that these are the facts invisible to science. Science can provide an explanation of the process of perception from outside, and silent about what these processes are like for the subject from inside. Reductive analysis of these subjective experiences is logically compatible with its absence. Any reductive programme has to be based on an analysis of what is to be reduced. If the analysis leaves something out, the problem will be falsely posed. Every subjective phenomenon is basically related with a single point of view; if physicalist explanation is the best explanation then it should give us a physical account of phenomenological feature of experience. At present, we have no conception of what an explanation of the physical nature of mental phenomena would be. Nagel is optimistic about solution of this mind-body problem in future developments.

c) Irreducibility of ‘Myness’ Facts

Myness-facts are peculiar to the experiencing subject. In other words, these are the facts related to my mental states or my unique mental perspective. Nagel claims that “I thoughts” and experiences (those thoughts and experiences belong to the individual him self) are irreducible to any types of representations and these types of facts (‘myness’ facts) could not be captured by any scientific objective description. He considered this ‘myness’ facts as incommunicable and ineffable. But it looks like to be real. According to Nagel, someone who has possessed the particular type of
experiences (echo-location or experiences) or experiences relevantly similar to these experiences can know what it is like to be bat. According to him, this fact about the ‘what it is like to be’ aspect of experience can only be known from a certain subjective perspective. So it is argued that, if I am not you, I cannot grasp ‘what it is like to be you’. So this peculiar type of fact cannot be captured by concepts of physical science since these are only objective concepts. Nagel claim that the features of experiences are something that need to be accounted for in terms of the concepts we have of them; which he calls subjective concepts. Nagel seeks to undermine the motivation for insisting that experiences are items to which subjective and objective concepts might both apply. Carruthers counter to that the problem arises due to non-attention of explaining how something that falls under such and such objective concepts must also falls under so and so subjective ones.

According to Carruthers, conflation of two different levels (the level of reference with the level of sense) is the problem before mysterianist. Against Nagel, Carruthers argues that one and only one fact is variously explicated as subjective and objective facts. Subjective aspect of experience is not same thing as occupying a point of view. Nagel conflates with these two views. Carruthers’ argument for rejecting two kinds of fact is similar to Frege’s analysis of sense and reference. Like Frege, he argues that the objective and subjective facts are or objective description of brain events and subjective feel refer to same thing, that is the brain events. But its ‘mode of presentation’ is different. Carruthers’ intention is to argue that these two facts are two species of same fact or two sides of same coin. Carruthers’ argument goes like this: irreducibility of “I thoughts” shows nothing about a special category of fact. The so-called subjective facts are not additional facts but these are another way of representing some of the very same objective facts, from a particular perspective. Any seeming difference between excited C-fibers and pain experiences, (according to dual-access theory), is one of perspective and this does not imply a dualistic ontology. The subjective or phenomenal feel of an experience (say tooth ache) is
another mode of presentation of activities in subject's brain (C fiber firing). The subjective feel and brain events need not be two facts and they are one and same fact but variously represented. This mode of presentation (representation) may again divided into (1) facts about the world (represented differently by different ways; objectively subjectively etc.) (2) Facts about our representation of the world. (How I represent the facts about the world from my particular perspective). What follows from this is that some version of dual-access theory will be critical to any plausible naturalistic account of conscious experience.

According to Carruthers, to know ‘what it is like to be’ aspect or phenomenal aspect is possible when we construct an imagistic representation of experience which helps us to recognize that experience without inference. In other words, knowing the phenomenal aspect of experience is equal to possing or constructing the relevant recognitional capacities. More accurately, knowing what it is like to be a bat is naturally interpreted as having the special skill or capacity to construct the right sort of recognitional concepts.

According to Carruthers, all facts are more or less subjective in nature. Any type of concept involves human interest and so will be subjective concept. So Nagel’s distinction between subjective and objective facts is not consistent. But as Carruthers maintains, Nagel really wants to draw a distinction between two types of concepts. Carruthers says that myness is not a separate fact about the experience. The scientific view knows in abstract, that particular experience is taking place, while myness facts are having introspective awareness about the experience. Thinkers like Dennett and Flanagan accept that there is something that experience is like but they deny the claim that phenomenal consciousness is mysterious in nature. Flanagan claims that Nagel’s hypothesis is misguided one because Nagel considers phenomenological feature is the real aspect of consciousness. But it is meaningless to count the phenomenal nature as the
only and complete character of consciousness. Nagel argues that no naturalistic analysis is competent enough to make room for the fact of first-person phenomenology or the correct nature of experience. So it is argued that the duty of a naturalistic project is to seek how the way things seem from the first-person point of view fit with data from other impersonal sources like third-person phenomenology, evolutionary theory, cognitive psychology and neuroscience. Nagel worries that such an account may discard the subjective viewpoint and it will take away from the real nature of the phenomena. Flanagan considers that Nagel’s argument is an overstated one, since there is nothing in the natural approach that requires abandoning the subjective point of view. Nagel’s argument that the real nature of the phenomenon cannot be explained away by the objective position is vague, because he conflates two senses of ‘the real nature’ and it is argued that the natural integrity of individuals and the structure and function of individual nervous systems justifies each individual’s unique relation to how things seem. For him, there is no motivation to think that naturalists fail to give explanation of existence of subjectivity and its role in the overall project of understanding human nature. As Flanagan considers good phenomenology is group phenomenology and getting clear on the phenomenology is not an essentially private enterprise. Flanagan criticizes Nagel’s approach to naturalism and says that a good naturalism is not reductive naturalism and naturalistic explanation involves deeper understanding of phenomenal facts in terms of ‘phenomenal feel’. More accurately, it does not imply that all naturalisms are eliminative in nature. The ‘phenomenal feel’ of experience consists in properties for which it is possible to form introspective concepts and to know what it is like is to acquire these concepts. So even if the subjective aspect of experience is mysterious and we never acquire knowledge about it is to say that we shall never be able to construct recognitional capacities for the subjective aspect of the bat’s experience. But it does not imply that these very same properties
cannot be represented by other ways such as objective standpoint of science.

### 2.3 Carruthers’ stand on Knowledge, Conceivability and Cognitive Closure Arguments

Jackson put forward an extra edition of Nagel's argument. Jackson’s argument is famously known as s Mary argument\(^{36}\). ‘Mary Argument’ is expected to be an evidence for the claim that conscious properties are irreducible and they are therefore ‘epiphenomenal’. It may be one of the most hotly discussed anti-physicalist argument. The hypothesis of which is; there is some knowledge about experience that can be obtained only by submitting yourself to the relevant experience. So it implies that only one who have a particular experience (say having a red experience) can come to know what the character of phenomenal experience (here it is experience of red). Jackson phrases the thought-experiment as follows:

Mary is a brilliant scientist who is, for whatever reason, forced to investigate the world from a black and white room via a black and white television monitor. She specializes in the neurophysiology of vision and acquires, let us suppose, all the physical information there is to obtain about what goes on when we see ripe tomatoes, or the sky, and use terms like ‘red’, ‘blue’, and so on. She discovers, for example, just which wavelength combinations from the sky stimulate the retina, and exactly how this produces via the central nervous system the contraction of the vocal chords and expulsion of air from the lungs that results in the uttering of the sentence ‘The sky is blue’. (...) What will happen when Mary is released from her black and white room or is given a color television monitor? Will she learn anything or not? It seems just obvious that she will learn something about the world and our visual experience of it. But then is it inescapable that her previous knowledge was incomplete. But she had all the physical information. Ergo there is more to have than that, and Physicalism is false\(^{37}\).
Nagel demonstrates that different point of views on the world adopted by different subjects miss something from objective account or scientific description. So he purports to establish that physicalism is a fake position, on the ground that there exist facts that cannot be known exclusively in virtue of knowing all the physical facts. Jackson argues that the subjective feature is a genuine fact and we cannot capture it in either physicalist or functionalist terms. As he maintains, phenomenal fact is an authentic fact about the experience. One might know all the objective, physical facts about human conscious experiences, and yet fail to know certain facts about what human conscious experiences are like subjectively; therefore, there are facts about human conscious experiences that are left out of the physicalist's story, and so physicalism is false. Let us analyze how Jackson's thought experiment can be met.

Mary is the super color scientist who has spent her whole life within the strictly black and white rooms. She knows every physical fact about the human beings and our environment. Although she knows all the minutiae of physical system underlying color perception, she is incompetent to know what an experience is like. In other words, she learns all chemical, neuro-physiological facts related to man's experience of red which will include causal and relational facts and functional facts. Jackson argues that there is more to know than a physical fact. So complete physical knowledge cannot be count as complete knowledge. It seems that even though Mary knows all the physical facts she does not know all there is to know about color experience of red. For him, the functionalist and physicalist theories are not perfect theories to give explanation to the subjective feature of experience of red. So we can summarize the knowledge argument as follows:

1) If physicalism is true, then by knowing the entire physical facts we can know all the facts there are;
2) The fact concerning the subjective aspect or what it is like to have a particular experience (for examples experience of a red tomato) is a fact one cannot know just in virtue of knowing all the physical facts.

3) Therefore, physicalism is false.

Put it in other way the Mary argument may be like this.38

Premise 1: Mary knows everything physical there is to know about seeing red.

Premise 2: Mary does not know everything there is to know about seeing red because she learns something about it when she was released from the room.

Conclusion: Therefore there are some truths about experience that escape from physicalist explanation and this implies that physicalism is false and phenomenal properties are not physical properties.

The main question related to knowledge argument is: Does Mary learns any thing or gains any knowledge when she first experiences red? Different thinkers reply to this question differently. For example, Churchland replies that it is possibly not and in effect he endorses a type of physicalism. Thinkers who gave positive replies include David Lewis, Michael Tye, T.Horgan, W.Lycan, B.Loar, R.Van Gulick. Etc. Thinkers like B. Loar says that Mary get a novel concept. A concept that enters her cognitive range in part on the basis of her newly acquired discriminative abilities. Thus using this new concept, she is able to apprehend the truth of new propositions. Loar does not reject the physicalist's position because the property is same there is only a conceptual difference. That both of these concepts refer to same property. Carruthers also shares similar view with Loar and he says “To know what seeing red feels like requires deploying a phenomenal concept. It is just such a concept that she learns upon leaving her room. And why couldn’t she learn that concept before? Wasn’t her extensive knowledge of color vision enough to enable her to learn that phenomenal concept?”39 In
what follows Carruthers attacks the knowledge argument through a set of replies which are called the opacity-of-knowledge reply, ability hypothesis and argument from *a posteriori physicalism*. 
1) **The opacity-of-knowledge reply**

This argument is the most popularized by thinkers like Horgan, van Gulick, Churchland etc. This view asserts that Mary only comes to know the new way facts or propositions she already know. It is clear that the knowledge argument depends on the incomprehensible notion of a fact, so, it is matter of dispute that, Mary learns something new in the sense of coming to know a new fact. For this argument explains why Mary learns what it is like to experience red without having to suppose that Mary learns new facts. Mary came to know a fact she already knew under a different mode of presentation. Carruthers way of meeting the argument is similar to this argument. So any criticism to the opacity-of-knowledge reply will also affect Carruthers also. That is, it may be that the sentences 'It is like such-and-such to experience red' and 'To experience red is to be in such-and-such a neural state' are made true by the same facts, but express different propositions; or it may be that while the two sentences express the same proposition, these propositions themselves can be believed/known under distinct modes of presentation. It is argued that failure of substitution cannot be explained away with the help of the claim that believer knows only some of a thing's properties. Because if physicalism is true Mary by hypothesis knows all the properties of things, so if physicalism is true, she knows everything. Loar draws the support of the notion of a 'phenomenal concept' to solve this problem and he says that such concepts pick out phenomenal properties directly, not via some distinct mode of presentation.

2) **The ability hypothesis**

Thinkers like David Lewis says that Mary gain strictly 'know-how' and she does not acquire new knowledge of facts and propositions but acquires only new abilities and propositions to recognize and imagine. Defenders of the ability hypothesis deny that knowing what it is like is factual knowledge at all. Instead, it is mere know-how, the possession of ability. Drawing support from the argument of Lewis (1998), Carruthers also claims that Mary lack an
ability to recognize, remember and imagine experience of red. But it points to yet another conclusion that diverges from that of Jackson. The criticism to Lewis is that he considers that all that Mary lacks are certain abilities. But Carruthers argues that Mary lack both ability to recognize, imagine and remember certain facts and lacks certain concepts namely phenomenal concepts of experience. So Carruthers combines ability hypotheses and the opacity-of-knowledge reply. Still the problem is prevailing there because the reply entails that Mary can know about the qualitative properties of experiences in two different ways. This is can be solved by the *posteriority* of identifications of qualia with physical properties. Therefore, the supporter of the opacity-of-knowledge reply must in some way deny the inference from conceivability to possibility, and it is not apparent that this inference can be believably denied in a way that refutes the knowledge argument. There are mainly three important criticisms to ability hypothesis. They are as follows:

a) The embedding problem\(^{44}\): This is a problem for explaining how knowledge of what it is like can be embedded in conditional reasoning. It is argued that if the intuition that we can draw inferences from our knowledge of what it is like is correct, then because we can’t draw inferences from know-how, knowing what it is like can’t be a mere ability.

b) The argument from meaning and syntax: The best general analysis of ‘knows how’ - locutions entails that ‘knowing what- it- is- like’ is factual knowledge\(^{45}\).

c) Third-person objection: When we know what it is like, we not only possess ‘know how’--which is knowledge of ourselves--but also know something about other people.

It is replied that In fact, however, the embedding problem isn't really a problem at all. The reason is that phrases of the form ‘what it is like to F’ are noun phrases, and so can't be embedded in conditionals alone. Of course, sentences of the form ‘X knows that what it is like to F is G’ may be embedded in conditionals, but defenders of the ability hypothesis would
agree that such sentences express factual knowledge without denying that knowing what it is like is an ability (No one denies that that what it is like to taste chocolate is delightful is a proposition; what defenders of the ability hypothesis deny is that knowing what it is like to taste chocolate is knowing a proposition). Those who think the embedding problem is a problem, in fact, cannot describe what is known in knowing what it is like merely by using the phrase "what it is like", but must instead use 'that' clauses such as "that pains feel like such and such". Unfortunately, defenders of the ability hypothesis would not accept that knowing what an experience is like should be understood in terms of knowing that the experience is like such and such\textsuperscript{46}.

3) **The a posteriori physicalism reply**

According to a posteriori physicalists, then, not everything necessitated by the physical need be a priori necessitated by the physical. Therefore, it is plausible to think that facts about what it is like to experience red are necessitated by the physical, but not a priori necessitated; and this suggests that Mary need not be expected to know what it is like to experience red just in virtue of knowing all the facts expressible in physical language. It seems that this argument is a version of the opacity-of-knowledge reply.

Jackson defends a modest version of epiphenomenalism, the view that certain mental states are non-physical and, although caused to come into existence by physical events, do not then cause any changes in the physical world Jackson (1994) offers an interesting argument against a posteriori physicalism. He argues that the water/H\textsubscript{2}O example does not support a posteriori physicalism, but instead helps him argue for a priori physicalism. If Jackson’s argument is correct, then the physicalist cannot refute the knowledge argument merely by appealing to the a posteriori of psychophysical identifications. For Lewis, there are two different kinds of knowledge; propositional knowledge and practical knowledge. As Lewis
maintains, knowing what it is like to be a red is only a practical knowledge rather than a propositional knowledge. Mary argument is not competent enough to challenge the physicalist or functionalist theories because the thickly individuated facts are identical with physical, functional or intentional fact of which Mary already know. We can apply Leibniz’s law related to knowledge-properties. If the experience is red = a certain type of physical and/or functional and/or representational state of the brain and Mary knows all truth of the form F (the physical and/or functional and/or representational state), then Mary also knows all truths of the form F(the experience of red). But there is particular F--- namely what it is like---such that Mary does not know it as a property of experience of red, despite knowing everything about the physical and/or functional and/or representational facts involved in seeing red. So in the experience of red any kind of physical and/or functional and/or representational state is involved\(^47\).

According to Carruthers, if we apply Leibniz’ law to thick properties of experience, it will be counter to physicalism and functionalism because, if Mary knows all of the physical, functional and intentional properties of color experience what it is like to be an experience is one of these properties., then she does know the truth of some thought representing the fact that colour experience is like that\(^48\). It is merely that thought in question (worldly individuated thickly individuated or concept—indeedent) will represent that fact by means of physical – functional concepts. After released from the black and white room she learns a new way of conceptualizing one of the properties of colour vision which she already knew about. Carruthers argues that there are many what it is like concepts which she does not know can be applied to colour experiences. This is because she does not even possess the relevant concepts. And she can possess these concepts after her release from the black and white room i.e. she learns to recognize colour experience for herself. David Lewis hold the view that Mary gains knowledge of know-how only; and she gains no new knowledge of facts and propositions. She gains only new practical abilities to recognize and imagine
the relevant phenomenal properties. So Mary learns new abilities. So the conclusion of Mary argument fails. And it is argued that there need be no truths or information left out of the physicalist story or out of Mary’s prior knowledge. But its possibility depends upon the plausibility of the claim that Mary gains no new knowledge of facts or propositions. But it is argued that Mary apprehends the fact about how phenomenal red appears only after her release from the black and white room.

According to Carruthers, all mysterian arguments commit the fallacy of equivocation. Because the term ‘know’ is used to express propositional knowledge in one premise and in the second premise, it is used to denote knowledge-how or ability knowledge by equivocating notions of fact and property. They cannot escape from non-reductionism. Carruthers argument is that the real problem of the knowledge argument is we read the ‘complete knowledge’ component of the argument in the thick sense (that related to the thickly individuated worldly facts about the color vision). Mary knows the truth of a thought representing it. If we take the claim about Mary’s incomplete knowledge of colour experience in thin sense, knowledge argument is not a threat to physicalism. Jackson used the knowledge argument, as well as other arguments, to establish a sort of dualism, according to which certain mental states, especially qualitative ones, are non-physical. In what follows, we will discuss another mysterian argument due to McGinn.

The idea of ‘cognitive closure’ launched by McGinn and supported by many thinkers’ conveys that the functions of the human mind are incompetent in principle to taking us to a suitable appreciation of what consciousness is and how it works. McGinn points out that there are really only two ways of getting at consciousness: by directly taking into account one’s own consciousness through introspection, or through exploring the brain as a physical object. On either side, we can construct new ideas, but what we need are ideas that bridge these two realms. Generally, there are
two problems related to a naturalistic explanation of consciousness; they are: (1) problem of explaining consciousness in purely physicalist terms and (2) problem of explaining representational content or intentionality in broadly physicalist terms. He says that any naturalistic theory of the kind existing now looks to be inaccurate as an account of what makes a mental state have a particular conscious content, or a specific phenomenology, yet phenomenology seems configured by content. McGinn position is a nominal naturalism or the new mysterianism. He accepts that naturalism is true and there are in fact properties of the brain that account naturalistically for consciousness. But we cannot grasp these properties or explain how consciousness depends upon them. Consciousness is terminologically mysterious because understanding of its nature is cognitively closed to us. So really the problem of consciousness is a case where we know how to ask the question but lack the mental powers to find the answer. McGinn says that there exists a cognitive closure in the domain of phenomenal consciousness. The subjective aspect is one of the important challenges to physicalism or materialism. The explanatory gap between subjective feel and corresponding brain events can be closed by the neither introspection nor the scientific explanation of brain events.

McGinn’s argument is epistemic in nature. The same line of argument is defended by Fodor also that central modules are informationally unencapsulated. Carruthers argues that there is no field of enquiry which is in principle closed to us. McGinn suggests that the problem of phenomenal consciousness lies in an explanatory gap between the subjective or felt properties of experience on the one hand and the underlying neural events in our brains, on the other. According to him, there are two different ways in front of us to close that gap. They are the method of introspection and purely scientific method. But both of these methods are unfair because in the first case further introspective investigation of our experience never lead us to see how these experiences could be constituted by neurological events in the brain. The scientific investigation never leads us to postulate that brain
events possess phenomenal characteristics. McGinn argues that it is hard to see how any scientific explanation starting from the observed properties of brain states could be realized in the felt properties of our experience.

It is quite evident that there is an explanatory failure on the issue of how that brain causes, sustains or constitutes states of consciousness. But the explanatory gap argument proves that causation of states of consciousness is not adequate to explain consciousness. McGinn’s position is that all entities are physical or comprehensively determined by physical entities but he denies that phenomenal consciousness has any explanation in physicalist terms. McGinn shares Nagel’s view that we must believe that physicalism is true, but there is a sense in which we cannot understand how it can be true. It is contrary to Levine’s view (which support the view physicalism is unsuccessful until it has explained phenomenal consciousness).

McGinn does not consider the latest advancements in cognitive sciences. Carruthers maintains that intentional or computational psychology has the credentials to explain away the so-called explanatory gap and his intention is to close the explanatory gap through a ‘default argument’ which works in this absence of a better argument. McGinn considers only the inference to the best explanation on brain states only. But as Carruthers argues, it is the inference to the best explanation of phenomenal consciousness itself; it is neither on brain states nor on phenomenal states. Inference to the best explanation is the handy tool for achieving a naturalistic theory. This seeks to explain phenomenal consciousness in terms of underlying cognitive mechanisms or architectures. So the higher-level phenomenal consciousness can be explained through the lower-level phenomena of cognitive mechanisms and architecture. Carruthers suggests a top-down explanatory strategy.

Now discuss similar argument due to Chalmers to reject physicalism. Chalmers’s argument is stated as follows:
1. Only natural properties those supervene logically on physical properties can admit of any kind of reductive explanation.

2. Phenomenal consciousness does not supervene on physical world

Conclusion: reductive explanation of phenomenal consciousness into neurological or cognitive vocabulary is destined to be a failure.

For Chalmers, in Zombie world (which is micro physically identical with the real world) there is nothing which it feels like to be. His claim is that this makes the problem of phenomenal consciousness so tough. Conceptualization of conscious states in terms of function is not possible. Carruthers argues that Chalmers’ position is mistaken. Because according to Chalmers, in order to be phenomenal consciousness, a mental state or property should have immediate cognitive satisfaction. For Carruthers, both the feelings in the Zombie world and inverted qualia world are conceptually possible i.e., we can allow that those are not relationally or causally defined even while insisting that the properties which these concepts pick out are relational ones. Conceptual possibility does not imply logical possibility.

2.4. Carruthers Response to Eliminativists’ and anti-Realists’ Arguments

Mysterianism endorses a view that, phenomenal consciousness is outside the explanatory reach of neuroscience. While eliminative materialist suppose that the framework for understanding the mind will be developed by neuroscience or successful theory of mind will be purely neuroscientific. They discard all the views which cannot be expressed by means of neuroscientific concepts. Eliminativism stand on the claim that naturalism is true. It based on the optimism that complete story of brain will stipulate a complete story of our mental life. Eliminative materialism treats folk psychology as similar to folk physics because it gives us only misconception and confusions and it is devoid of legitimate explanatory command. The commonsense everyday nature of propositional attitude vocabularies like
belief, desire, and intention are unsuitable to scientifically sufficient explanation of psychological states. They argue that concepts like consciousness, qualia, and subjectivity are unhelpful in solving the problems related to naturalization project of mind and consciousness. Eliminativism is a theory which denies or at least seriously doubts those beliefs, desires intentions and the rest exists. They regard propositional altitude vocabulary as pre-scientific. They maintain that folk psychological terms are primitive in nature. Some thinkers argue for practical utility of folk psychological attitude but reject the claim that they are real entities. The difference between reductive physicalism and eliminative materialism is that former dose not deny the very existence of commonsense mental state rather identify these states with types of brain states. Rather eliminativists reject existence of these states themselves and hence such states are not identical with physical states of any sort. Eliminativists maintains that even though FP is supposed to explain and predict behaviour, it has no potential to do so. Eliminativism is different from reductive physicalism because reductive physicalism receives type-type identity theory as suitable theory. Eliminativists reject any type of identity between brain states and propositional attitudes and they flatly reject it. Generally eliminativism believes that common sense psychological theory is subject to potential scientific falsification.

Eliminativism rejects realism of facts. Fodor defends realism of facts. He counts two arguments in support of FP. According to Fodor, success of FP is to depend upon its explanatory and predictive success. As Carruthers maintains, knowledge of FP is innate, that means FP, is resulted from maturation rather than any learning process. It is the basis of Carruthers evolutionary perspective of consciousness. The essential argument in support of FP’s innateness is parallel to Chomsky’s argument.

The problem of qualia is considered as an important problem in cognitive science. It is the only aspect of mentality that escaped from the net
of functional explanation. But Dennett, argues there is no qualia at all. So his position is eliminativist in this sense. According to Churchland, the capacities of human mind are in fact capacities of human brain. So she supports identity theory. She says that there is sufficient reason to defend this hypothesis. The right strategy to explain the mental phenomena is a reductionist strategy; that she tries to explain the macro-level in terms of micro levels. Two forms of eliminativism are distinguished: they are called as

a) Elimination now (Churchland 1979,1981)

b) Elimination in prospect (Stich, Ramsey P)

a) **Elimination now**

Eliminativism now is really eliminativist naturalism. Eliminativism concedes that naturalism is true. The complete story of brain will tell us the complete story of mind. Concepts like consciousness, qualia and subjectivity are unhelpful in setting out the explanatory agenda for a naturalistic theory of mind. This form of eliminative materialism is suggested expertly by Paul and Patricia Churchland. Paul Churchland’s eliminative materialism, stand for the claim that commonsense mental concepts such as beliefs, feelings, and desires are theoretical ideas without clear and reasonable definition. For Churchland, these theoretical concepts have no necessary role in the scientific understanding of the brain and we need to deal with only the objective phenomena, like neurons and their interactions to explain the brain. He considered commonsense conception of mind is misleading conception of the causes of human behaviour and they will be overthrown when a more accurate framework emerges from the neurosciences.

The fatal flaw of folk psychological frame work is that because of its incapability of inter-theoretic – reduction. FP is ill-equipped to deal with the problems it may come across because the reduction between folk psychology and theoretical neuroscience is an improbable dream. So it is
argued that FP is an outright misrepresentation of our internal states and activities. Churchland argues that FP can already be seen as inadequate theory. For Churchland, folk psychological concepts should be eliminated rather than replaced by a new developed neuroscience. There are three reasons put forward by Churchland to support the elimimnative claim or the claim that FP is a faulty theory.

1) Moderately utter failure of FP

2) Evidence of stagnation of FP

3) FP’s separation from and irreducibility to the emerging corpus of scientific knowledge (like psychology and neuroscience.)

1) Carruthers criticizes the first horn of above argument and says that FP is absolute disappointment and says that while doing folk psychological explanation, we are dealing with a commonsense psychology. “Broadbent filtering effect”, a famous study on splitting of auditory attention proved that in order to elucidate the difference between acoustics process and semantic process the neuroscientist should take into consideration both the phenomenological and functional account seriously\textsuperscript{53}. In FP, there is no serious endeavor to explicate mental concepts does not imply that FP is a theory that faces an explanatory failure. Carruthers argues we should accept that, like all other commonsense theories, FP has its own limitations. But the problem here is that, Churchland conflates two different views: ‘failure to explain’ and ‘explanatory failure: (Failure to explain $\neq$ explanatory failure)\textsuperscript{54}.

2) While taking the second horn of eliminativist argument Carruthers, says, Churchland fails to distinguish between folk theory and scientific theory. The objective or aim of these two theories is different; the focus of latter theory is more general than the former. FP has worked well for its own purpose and it is re-applied to each new generation
and so there is no so-called stagnation and sterility. Carruthers accepts that basic procedures for explaining and anticipating through FP is stagnant for centuries. But it cannot be count as the indication of decay or collapse of FP. Rather it suggests that it is not a learned theory of behaviour and it is an innately acquired theory. The nature and degree of the innate element in folk psychology is still very much an open question. Carruthers accepts Churchland’s claim that FP is isolated from the scientific explanation. But he says that it won’t count against the status of FP. It is notable that there is no correct explanation of intrinsic content, but he believed that it is not a reason to abandon it as insoluble. In the case of irreducibility, Carruthers argues that there is no neat kind of reduction and reduction can be applied only to a specific variety of cases. So the collapse of inter-theoretic reduction of FP is not a high-quality rationale to eliminate it. Eliminative materialism suggests an analogy between phlogiston and folk psychological notions of mind. But the replacement of phlogiston by oxygen is a kind of intralevel replacement. While in the case of folk psychology and neuroscience replacement is not possible because they have only interlevel relation. “The history of science offers no precedent for theory elimination in interlevel contexts” and hence it is refutable.

Research shows that conscious versus unconscious behaviours can be connected to particular brain regions and structure of neurons. However, neuroscience only centers on the neural correlates. The hard problem of consciousness is to explain how all these flows and electrochemical processes in the brain give rise to the inner experience of subjective awareness. The very notion of truth is inextricably bound up with notions of belief and other propositional attitudes. Primary bearers of truth are beliefs rather than sentences. So we abandon folk psychological notions that in
effect abandon the the very enterprise of science itself. So the folk-psychological notion of phenomenal consciousness is not captured by various functional-relational definitions. Cognitive science and neuroscience unquestionably improve upon the folk understanding of consciousness, awareness, and mental states normally. But the folk-psychological constructs should not be discarded; they have a role to play in cognitive theorizing.

b) Elimination in Prospect or Deconstruction of Mind

Stich’s brand of eliminativism is less dogmatic than Churchland’s. However elimination in prospect is equally a strong version of argument. Stich says “Among the many cognitive capacities that people manifest, there is one cluster that holds a particular fascination for philosophers. Included in this cluster is the ability to describe people and their behaviour (including their linguistic behaviour) in intentional terms -- or to ‘interpret’ them, as philosophers sometimes say. We exercise this ability when we describe John as believing that the mail has come, or when we say that Anna wants to go to the library. By exploiting these intentional descriptions, people are able to offer explanations of each other’s behaviour and to predict each other’s behaviour, often with impressive accuracy. The term ‘folk psychology’ has been widely used as a label for the largely tacit psychological theory that underlies these abilities.”

Eliminativism in prospect argues that underlying cognitive process will be shown that commonsense category of mind (like belief, desire etc) cannot be empirically defended. Stitch has an optimism that the future developments in cognitive and/or neuroscience will lead to the falsification of common sense psychology.

Premise 1: Intentional states are postulates of a proto-scientific theory, folk psychology.

Premise 2: Folk psychology is largely false.
Conclusion: Intentional states do not exist

For Ramsey, connectionist network is not consistent with folk psychology, but there exist separability between them.

Both Carruthers and Fodor believe that the predictive power of FP is a good reason for taking it to the correct. Predictive success depends upon the quantity and quality of information available. So the difficulty in assessments of predictive power of FP does not reveal the defect of it. The major limitation of FP is related to the informational demands it imposes. But it has its own practical utility. There are two meanings to folk psychology. Stitch has failed to distinguish between two diverse notions of ‘folk psychology’

1. According to its first meaning, folk psychology means "the general theory of mind that is implicit in our intentional descriptions". According to this theory, our behaviour is the outcome of the causal relations between propositional states such as beliefs and desires. So this theory implies the real existence of mental states such as belief, desire etc.

2. Folk psychology’ denotes a common theory of the mind, or the mental mechanism that make possible our performance of folk psychology, might mean something like "the internally represented, but largely unconscious, knowledge structure that is accessed by the mental mechanism that is causally responsible for our ability to construct intentional judgments. So in effect, Stich conflates the theory of mind that is implicit in our folk psychology and the mental mechanism that is responsible for our capacity to make folk psychological judgments. At the most ,this Theory-Theory (in Stich’s view) plus Theory of Mental Mechanism is a notational variant of Carruthers own theory.
The heated discussion between realist and anti-realist is on the question of what scientific psychology should obtain from folk psychology. Realism of intention maintains that there is more to take from folk psychology and argues that we are explaining and predicting others action and reactions on the basis of their intentional state such as belief, desire, hopes etc, which in effect implies the very existence of these intentional states and these states having a causal effect. But realism of fact argues that the folk psychological commitment is the correct explanation. Realism of fact entails realism of intention.

Anti-realism rejects the view that we can explain and predict people’s action and reaction on the basis of their intentionality and in effect it rejects the claim that FP has an ability to explain the existence of causally effective mental state types. Carruthers considers only two of them; due to Davidson and Dennett as they confront his own project of naturalization of phenomenal consciousness.

a) Davidson’s Interpretationism

Davidson’s view is known as “anomalism of mental, which is a monistic theory of the relationship between mental and physical events and properties. It holds that every causally interacting mental event is identical to some physical event — particular mental events (tokens) are the very same events as particular physical events (token-identity, or monism). It is argued by Davidson that there is no prospect of reduction of intentional mental predicates and concepts to physical. Davidson’s endeavor is to preserve materialism and to stay away from reductionism. The principle of rationality presides over intentional mental predicates, while physical predicates are not so. He added that there can be no actually law-like generalization framed in our common sense view. Davidson’s argument may be summarized as follows.

1. A good theory of interpretation must have a maximum agreement between interpreter and interpretee.
2. FP is not much as theory of as an interpretative schema.

3. So scientific explanation is reducible to interpretationism.

Both mental and physical phenomena have distinct sets of features characteristic of their own domains, but these features are incompatible with each other. Bridging laws, linking properties from two distinct theoretical discourses (in this case mental and physical) would transmit properties from one discourse to another, which in case of mental and physical phenomena would lead into incoherence. Therefore, there could be no psychophysical laws linking mental and physical phenomena and it claims that there can be no strict laws on the basis of which any mental event-type can predict, explain, be predicted or explained – therefore, mental properties cannot be reduced to physical properties (mental anomalism).

Carruthers criticizes that Davidson’s uplifts interpretation over prediction and argues that FP provides us with many principles for attributing mental states to others; which is independent of observations of behavour. Another mistake committed by Davidson is that he gave pivotal role to informational part of folk psychology. the only attraction of his view is, simulation has a role in his treatment of FP, particularly in relation to inference.

b) Carruthers’ Critique of Dennett’s Instrumentalism

Dennett is famous for his attempt to demystify consciousness. His theory of intentionality based on folk concepts of belief, desire intention and explanation. The dissimilarity between Davidson and Dennett is that of the former considers that duty of FP is interpretation and explanation after act, while the latter’s view is that it is the expectation and prediction of occurrent behaviour. Dennett launched three forms of stances to explain and predict the behaviour of a system one can make use of three strategies:

1. Physical Stance: The physical stance approach is the most fundamental and scientifically satisfactory approach that utilizes
knowledge of laws of physics and physical states to predict behavioural outcomes

2. Design Stance: The design strategy predicts that something will behave as it was designed to behave. In other words, it assumes the behaviour from the function for which it was intended (we know when a clock alarm will go on even if we don't know the internal structure of the clock);

3. Intentional Stance: The "intentional stance" is the set of beliefs and desires of an organism that sanction an observer to predict its actions. Intentional stance is a handy tool used to predict the behaviour. Belief and desires are not internal states of the mind which cause behaviour. For Dennett, people have intentional states because intentional strategy works as predictor of their behaviour. Carruthers considers intentional strategy as a way for predicting subject's behaviour. The intentional stance is a stance from which we can explain action in terms of the beliefs, desires and other representational states of actor, where the explanation consists in attributing representational states that make the action or least. When explaining a particular human activity we make statements such as the following

Sheena took her book because she wanted to study.

Ram run away from the school because he believed that teachers are going to beat him.

The special feature of these types of statements is they are predictions or explanation of human action by using folk psychology; through which we can attribute attitudes (believing, desiring, wanting etc). These attitudes engaged in such folk psychological descriptions are called the intentional notions. Daniel Dennett maintains that intentional system's behaviour can be predicted by the process of attributing belief, desires and
rational acumen". For Dennett, to say that X wants that Y and believes that Z is necessary for Y just in case it can be predictively attributed these beliefs and desires. He says that we can attribute beliefs and desires to animals and machines. For example, consider a computer running a chess-playing program. We might consider this machine from a number of different points of view. We might adopt the `design stance': this will be our point of view if what we are interested in is primarily the construction of the program, how it is implemented in the hardware, and so on. Then there is the `physical stance': this will be our perspective, if we are interested in the chemical or electronic properties of the semiconductor devices in the machine's circuit board, and so on. But apart from these perspectives, there is what Dennett calls the `intentional stance'. This is the point of view you would adopt if you were actually playing chess with the machine: in this case you would consider its goals, strategies, the beliefs that it might have about your strategy, and so on. When we adopt the intentional stance, we are treating the machine as if it had desires, beliefs, purposes, representations, etc., that is, intentional states.

No system is really intentional. From a biological standpoint, the intentional stance defines the relationship between an organism and its environment. The organism continuously reflects its environment, as the organization of its system implicitly contains a representation of the environment. According to intentional stance, behaviour is regulated by intentional states which are sensitive to the environment in which the intentional system is embodied. In this strategy, intentional states are treated as representations.

The intentional stance is a coordinating device, essential for successful life with others. Those who fail to learn it are deemed autistic and children are incited almost from birth to use it to interpret others-and themselves. Applied to self, the intentional stance not only provides one with a sense of oneself as a continuing being with a coherent history and unified
opening to the future. The narrative sense of self is distinctive to human consciousness. Dennett identifies different ‘grades’ of intentional system. A first-order intentional system has beliefs and desires (etc.) but no beliefs and desires about beliefs and desires. A second-order intentional system is more sophisticated; it has beliefs and desires (and no doubt other intentional states) about beliefs and desires (and other intentional states) - both those of others and its own62.

Dennett considers beliefs and desires as logical constructs rather than theoretical posits, which are assumed to have a physical existence. According to intentional stance, beliefs and desires are not reducible to brain states. Any system whose behaviour can be predicted by the intentional stance is considered an intentional system. The attribution of intentionality to the chess-playing machine is merely the product of the adoption of a certain sort of stance to the machine, a stance which is appropriate because of its predictive and explanatory value, and therefore to that extent objectively justified, but which need have no deeper metaphysical basis. In this, he declines to identify beliefs or desires with specific natural kinds. Thus, our folk-psychological talk about beliefs and desires is essential and frequently true, but does not concern entities in the brain63. We can replace folk psychology by other measure science. Intentional notions have an indispensable heuristic role to play. So nothing will be lost by supposing that there is no such thing in scientific or metaphysical fact as real intentionality, whether in machines or in humans. We often attribute feelings or intentions metaphorically to non-human things. Our attitude to other human beings is just a version - a much more sophisticated version - of the same strategy.

Even though Carruthers labeled Dennett’s view as instrumentalism, he concedes that Dennett’s view of folk psychological notion is difficult to grasp. In order to predict the behaviour of others, FP is adopting certain intentional stances. Dennett declares: “what it is to be a true believer is to be an intentional system, a system whose behaviour is reliably and
voluminously predicted via the intentional strategy. For Carruthers, true believers are one who actually has beliefs. So Carruthers maintains that his view has more prospects to succeed than Dennett’s. The main criticism against Dennett is as follows:

1. The **Blockhead argument**: It proposes that Jones, has a twin who is in fact not a person but a very sophisticated robot whose acts and appearance is similar to Jones, but the twin’s behaviour is controlled by a chip and does not have any thoughts or feelings at all. As intentional system theory argues, both Jones and twin (Blockhead) share the same beliefs and desires. But the present argument proves that it is a false claim. Because in fact (Blockhead) has not a thought in his head. It is criticised that intentional strategy uses intentional terms in a purely technical way to predict behaviour. It keeps silence on the question ‘what beliefs and desires really are in human beings?’

2. The intentional strategy treats people as rational creatures who make predictions about human action. Stephen Stich points out that people often have beliefs or desires which are irrational or bizarre and intentional strategy leaves these possibilities unexplained. Indeed this is what we often do when someone is behaving unpredictably - we look for the reasons why. This development takes away from the simplicity of the theory but is not explicitly an argument against it.

3. The other criticism is from the reverse case to the Blockhead argument. Consider a person who is completely paralysed. He has no behaviour and so intentional stance theory should reason that therefore they have no intentional states. The solution to this is problematic: the intentional stance theory expert looks to their circumstances and says: they probably have the belief that they are paralysed, and the desire that they weren’t, and I predict from these that their behaviour will be nil, hence, intentional stance theory works. But could anything, then, be an intentional system? What about a
lectern? Why not say that a lectern mourns the fact that it used to be a tree, and desires to be one again, but due to its circumstances it just stays where it is? This presents a strong challenge to the claim that intentional stance theory can adequately account for beliefs and desires, for we surely do not want to say that a lectern is an intentional system.

4. The assumption of intentional stance theory is that humans are evolutionarily adapted to be rational agents. The ability to make quick predictions of a system’s behaviour based on what we think it might be thinking was an evolutionary adaptive advantage. That is, we cannot maintain that humans are rational agents just because it would have been evolutionarily convenient for them to have evolved as such.

So Intentional Stance theory can be viewed as a middle ground, as it concedes some aspects of eliminativism (arguing that folk psychological entities cannot be reduced to natural kinds in the brain) whilst still seeing the value of folk psychological concepts as both essential to our understandings of and dealings with other people, and as grounded in real regularities in human behaviour. It rather hybridizes folk with scientific psychology.

2.5. Carruthers reply to Challenges from Connectionism

What will be the structural design of mind? There are different models of mind which try to give answers to this fundamental question; such as connectionism, computationism etc. It is suggested that connectionist models as the best way to model human cognition and connectionism deserves considerations from the philosophy of mind. According to this model, high-level mental properties are emergent properties that depend on lower-level phenomena in some systematic way. Connectionism tries to explain human cognitive activities with the help of artificial neural networks. Connectionist models seem especially connected to what we know about neurology. The brain is like neural net, moulded by large amounts of units.
(neurons) and their connections (synapses). This model is different from computationalism which hold that the mind is something similar to a digital computer processing a symbolic language. A neural network consists of large number of units joined together in a pattern of connections. Units in a net are usually segregated into three classes: input units, which receive information to be processed, output units where the results of the processing are found, and units in between called hidden units. Connectionist models can be classified by representational commitments in two categories:

Distributed: Distributed representations are vectors in a representational state space, and are processed simultaneously by many nodes in a connectionist network.

Localist: Localist models use individual nodes to represent one entire concept (such as ‘dog’). In general, distributed representations are more neurologically realistic that localist representations. However, distributed models are often far more complex and difficult to analyze than localist models.

**Figure:2.1. Simple Three Layerd Feed Forward Network**

Connectionists neither make an endeavour to explicitly model the variety of brain neurons, nor the effects of neurotransmitters and hormones. Classicists criticized that neural networks are not particularly good at the
kind of rule based processing that is thought to undergird language, reasoning, and higher forms of thought. Connectionism is often defended on grounds of neurological plausibility. According to this, there are feed-forward and feed-back connections. It suggests that representations are likely to be distributed across such neural networks. But Carruthers argues that there is no relationship between the one idea and other and he further argues even though the visual system consists of a number of different streams of processing, there are particular cells or small group of cells responding differently to particular features.

In particular, dynamic systems theorists claim that connectionist models are unrealistically wedded to ideas of representation and computation. Connectionist networks cannot have claims about neurological realism attached to them. These networks often have too little recursion, far too much inhibition, unrealistic learning algorithms, simplistic transfer functions, and no analog to the large number of neurotransmitters and hormones which affect human cognition. Symbolists have taken a number of lines of argument. Fodor and Pylyshyn (1988) have criticized connectionism as not being able to support the systematic and productive natures of human thought. As well, it is thought that the only role for connectionist work is to provide a method for implementing a symbolist system in a manner similar to the brain. Thus, the best level of description of human cognition remains at the symbolic level. In recent years, however, a number of connectionist models have been produced which shows these criticisms to be questionable. As connectionism argues, the brain consists of a network of simple electrical processing units which motivated and subdued each other. The main limitations of early net working models are that they have only two layers of processing units. In connectionism representation is distributed across the network; in a manner in which the whole system can represent a particular content. As Carruthers argues, representation within actual neural system is local rather than distributed. For example, in the case of blind sight the connectionist argued that process of brain is parallel in many domains.
Carruthers says that it is also possible to symbolize systems by devolving the processing to a variety of modules of sub-modules where each of the modules operates independently. Carruthers rejects connectionist views of pattern recognition and their view of degradation of memory system with correct explanation. Computationism has been supported by the speed of human learning. But connectionist system requires a large degree of structure, imposed upon succeeding each of its outputs. So Carruthers, connectionism fails as a model of human cognition in the domain in question. The differences between the two approaches (symbolicist and imagist/connectinist) that are usually cited are the following:

Computationalists posit symbolic models that do not resemble underlying brain structure at all, whereas connectionists engage in "low level" modeling, trying to ensure that their models resemble neurological structures. Computationalists generally focus on the structure of explicit symbols (mental models) and syntactical rules for their internal manipulation, whereas connectionists focus on learning from environmental stimuli and storing this information in a form of connections between neurons. Computationalists believe that internal mental activity consists of manipulation of explicit symbols, whereas connectionists believe that the manipulation of explicit symbols is a poor model of mental activity. Computationalists often posit domain specific symbolic sub-systems designed to support learning in specific areas of cognition (e.g. language, intentionality, number), while connectionists posit one or a small set of very general learning mechanisms. Classical computational picture of mind brain has been challenged by so-called 'distributed connectionist' models of cognition. As this view defends, there is no internal symbol or mentalese. For this model, representations are distributed in a vast inter-connected network of nodes in the brain. Carruthers argues against connectionism and says that connectionist should either to support eliminativism or interpretationism, both of which are criticised by Carruthers. Moreover recent researches provide the evidences for local cognition. For example, many animals like
chimpanzees can do on-off learning. So it is possible only chimpanzees brain contains a structured state of some sort of language which is different from natural language.

The whole packaging of Carruthers’ naturalistic theory forces us to believe that he is a friend of phenomenal consciousness who wants to keep a middle position between phenomenal consciousness and qualia skepticism. He supports a hybrid position in each and every explanation related to consciousness. As he argues that by using connectionism as a claim about the mere lower-level performance of cognitive process, it is no threat to the classical account of cognition. For him, it is possible that a symbol crunching program run in a connectionist machine. But he says that if we extend the connectionist model to cognitive algorithmic domain, it will become problematic.\textsuperscript{67} If we accepts identity thesis that our belief are identical with representational states of brain then it will be a challenge to the existence of FP. Then it is wise to suggest a hybrid model of mind which will satisfy both parts of explanation. Connectionism is best in its endeavor to explain pattern recognition tasks, some of our sensory and perceptual capacities etc; while traditional computational model is best to explain powers of logical inference.\textsuperscript{68} So connectionism can be hybridized with symbolicist models after all.

To conclude: we have singled out the four major challenges to Carruthers’s naturalistic theory. Carruthers challenges to these arguments are not entirely negative including the challenges from non-reductionism.

1) Mysterianists are silenced by holding that we are not closed to our own mind.

2) Eliminativists cannot eliminate because there is a way of understanding folk psychological concepts which is equally scientific/naturalistic.
3) Anti-realist has to come term with folk psychology even while they leave their interpretationist stance or intentional stance.

4) The connectionist challenges cannot touch on many features of symbolicist and hence hybridization is in order.

Since Carruthers' attempt is to accommodate phenomenal aspect of experience to physicalist ontology. It demands that qualitative concepts belong to a category of concepts called (higher-order) "recognitional concepts." He argues that this is to embrace that there is no actual content to phenomenal experience and that phenomenal concepts are just a bare dispositional capacity for recognizing various physical states of the brain. He is a friend of phenomenal consciousness who keeps a middle position between phenomenal consciousness and qualia skepticism poised for reductionism or anti-reductionism. Thus Carruthers builds up a new way of looking at reductionism and anti-reductionism on the one hand and introducing language on the other. Carruthers main ideas are: an argument from introspection, nativism, a higher-order theory, a defence of folk psychological realism, a natural language account of thinking (his earlier classification) together with an account of semantic content much of which gets almost lost in his later writings. The point I wish to underscore in my thesis is that there is no apparent claim about naturalism in his post-naturalistic approaches. Hence the question whether an exclusivist naturalistic theory of phenomenal consciousness looks plausible is as sanguine as ever. This question is posed in the title of the subsequent Chapter.
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