CHAPTER- 2

Identity Theory: Critique of Traditional Paradigms

2.1 Behaviourism

As we have mentioned earlier that the Identity Theory developed as a reaction to the behaviourist analysis of mind it is necessary to have a brief idea of behaviouristic conception of mind-body relation in order to appreciate the contribution of Identity Theory. But before going to the details of the theory we should be clear as to what is called Behaviourism.

Behaviourism stands for a group of theories which define consciousness in terms of bodily behaviour which is observable to others. Behaviour is easily observed and verifiable by others. The theory captures this and emphasizes on it to demystify mind. This theory outright denies the existence of mind as an independent substance and supposes that behaviour is out and out determined by the physical conditions of the body and its interaction with the environment. Moreover this theory does not accept any unobservable stimuli rather it focuses solely on observable stimuli, responses and its consequences.

Behaviour is the only plausible candidate worth investigating and interesting thing and it is the best or even only means for investigation of mental processes or psychological processes. The Behaviourism also claims that apart from the reference to behaviour,
the mental terms, such as, ‘belief’, ‘goal’ etc. have no other reference.

2.1.1 Origin of the theory

In 1913, psychologist J. B. Watson systematically approached the issues relating to mind from behavioural perspective and was the founder of behavioural school of psychology. This academic and highly influential school of psychology dominated in the USA between World War I and II. The main purpose of this school was to begin psychology with a new method of study and to discard the traditional method of introspection. Traditionally it was believed that psychology is the science of mind. But what is mind? How can it be studied? etc. are the questions which the advocates of this theory faced and consequently this definition was rejected. Thus facing the problem of definition of mind the subsequent psychologists define it as the study of the consciousness. In his book “Principles of Psychology” published in 1890 William James defined psychology as that it is the description and explanation of state of consciousness as such. Almost the same view is given by William Woundt and his disciple Edward Bradford Titchener in defining psychology. According to them psychology is the science of consciousness. Thus the traditional psychologists believed that the task of psychology is to describe and explain the states of consciousness. Their chief intention was to relate mental phenomena with bodily processes. To serve these purposes they used the introspective method – the process of looking within. They used this method on the assumption that mental processes occur within the mind which cannot be perceived by others. So the best way to know the occurrences of one’s mind is the person himself, which is called self-observation. So introspection is called a subjective method.
But the traditional definition of psychology was rejected by the subsequent psychologists on the grounds that this definition is narrow in range as it does not cover subconscious and unconscious activities of the mind. And their method of studying mind is also unscientific as it is subjective in nature. Moreover, by consciousness they mean human consciousness only and not animal consciousness. Thus the traditional definition and method of study could not satisfy the psychologists for whom science was the ideal.

On the first part of the 19th century we find a new definition of psychology and a new method of its study. The first man who defined psychology otherwise was an English Psychologist William Mc Dougall. According to him, psychology is the science of behaviour. In 1905 he published his book ‘Physiological Psychology’ where he wrote that psychology is a positive science which studies the conduct of living creatures. In 1908 he added the word ‘behaviour’ in his book ‘Introduction to Social Psychology’. And subsequently in his book ‘An Outline of Psychology’ he has given a meaning to psychology by saying that the aim of psychology is to give us a better understanding and control of behaviour of the whole organism.

Thus the subject matter of psychology is behaviour was stated by many psychologists before Watson. But Watson’s definition is much wider in scope than others. He included in the scope of psychology both human and animal behaviour.

Watson very categorically stated that the idea of consciousness as believed by the traditional psychologists is wholly absurd. Because it neither can be perceived by any sense organs nor can it be tested by any test tube. Those who believe its reality cannot study it satisfactorily
because it is wholly a subjective notion and only a matter of private inspection. Thus in order to make psychology a science of behaviour, he concentrated his studies only on observable and measurable behaviour. The ground on which he discarded consciousness is the same ground on which he discarded the reality of all other mentalistic notions like soul, mind, mental life, images and ideas etc. Regarding thought and imagination he holds that these are nothing but implicit muscular behaviour. Similarly, his hypothesis regarding emotion is that it consists in “Profound changes of the bodily mechanism as a whole, but particularly of the visceral and glandular systems.”

In his later writings Watson totally rejected all kinds of hereditary mental traits including instinct. Regarding the behaviour of an individual he holds that it is wholly determined by the environment. This view of Watson is the logical consequence of his reflex theory. His view of sensation and perception is that these are sensory response of the organism. In his latter period Watson adopted the theory of the conditioned reflex, propounded by the Russian Behaviourist Pavlov, to explain the process of learning.

Thus his theory is truly known as Behaviourism. In his own words Behaviourism “attempted to make a fresh, clean start in psychology, breaking both with current theories and with traditional concepts and terminology.”

Thus Watson intended to introduce a method in psychology as objective as we find in physics or chemistry and to discard introspective method. He favoured a method that takes observables because the same

2. Ibid, p-4.
object or event could be observed independently by different observers. And it is only by this process psychology can become an experimental branch of natural science which is purely objective in nature.

While discussing the method of psychology we find that there are two aspects of Behaviourism- positive and negative. On the positive side it believes that the method of psychology should be objective like that of natural science. On the negative side, it denies the introspective method as the proper method of psychology. This is because of the fact that introspection gives us ambiguous, unscientific and unreliable information.

Thus Behaviourism of Watson has brought a new era in the field of psychology. This is done on the ground that this theory makes psychology materialistic, mechanistic, deterministic and objective. But in spite of its great contribution this theory has its critics.

I. Critics point out that behaviourist attempt of exclusion of mind from the domain of psychology is untenable. It is “as grotesque as an attempt to stage Hamlet with the Prince of Denmark left out”. (Psychology: S.C. Dutta, p-387) Moreover, consciousness is an important factor in psychology and it must remain a central topic of psychology forever. Like outward behaviour, psychology is a science of inner experience.

II. It is an indisputable fact that all human beings possess consciousness. In rejecting consciousness and accepting body for mind and physiology for psychology the behaviourist committed the old materialistic fallacy that nothing is real except visible and tangible.

It is to be mentioned here that Watson’s conception of psychology was much influenced by Ivan Pavlov, a Russian
Psychologist who experimented on dog's digestive system by conditioned reflex. Watson also was interested to find out the role of stimuli in producing responses, and that is why he is often described as an S-R (stimulus-responses) Psychologist.

Watson's behaviouristic conception of Psychology had many ups and downs but there were many psychologists who contributed further. Three major figures were Edward Guthrie (1886-1959), Clark Hull, and B.F. Skinner. But the basic question remains, what is behaviour? The answer may be given in a simple statement that what organisms do is behaviour. And on this assumption the whole theory of behaviourism is built up. The purpose of this theory is to promote the scientific study of behaviour. Thus there are two different ways to designate behaviourism - loosely and strictly. In loose manner behaviourism is taken as an attitude but in strict manner it is described as a doctrine. Now an obvious question comes up, who is a behaviourist? This answer is given by Wilfred Sellars a distinguished philosopher, in a very simple way. He says that any person can be qualified as a behaviourist if she or he insists on confirming "hypothesis about psychological events in terms of behavioural criteria."

Thus all psychological theorists who demand behavioural evidence are called behaviourists. A behaviourist generally does not believe in the difference between two states of mind until and unless the difference is shown in behaviour.

2.1.2 Different types of behaviourism

Behaviourism is of three different forms- (1) Psychological Behaviourism (2) Methodological Behaviourism and (3) Analytical Behaviourism. Each of these forms has its own claims.

**i) Psychological Behaviourism:**

The primary claims of this type are to rectify the method for psychology and to introduce a correct method for scientific psychology. With this end in view this theory appears in the early part of 20th century. The famous traditional psychologists named Wundt, James and Titchener used introspection as a method of psychology. They also believed that consciousness is the subject matter of psychology and consciousness can be studied only with the method of introspection. But rejecting this view Watson put forward a different opinion. According to him, behaviour can be observed objectively and thus scientific psychology should concern itself with what is objectively observable, i.e., behaviour.

**ii) Methodological behaviourism:**

This type of behaviourism claims that Psychology is the science of behaviour and as such it is not a science of mind. According to this view, psychology should not concern itself with any mental events or states but should concern itself with the behaviour of organisms- both human and non-human animals. It is for this reason that this theory is called a normative theory for it deals with the scientific conduct of psychology. Methodological behaviourism tries to understand the source of behaviour in physical conditions and thus reference to mental states, such as, desires or beliefs have no additional advantage to this theory. Mental states are beyond the range of empirical study as because these are purely private entities. This type of behaviourism is
prominently found in the writings of John Watson.

Methodological Behaviourism is also called Eliminative Behaviourism as it repudiates all or most of our commonsense mental concepts, such as, beliefs, conscious mental states, sensations and so on.

This theory believes that all our behaviours originate from external stimulation in the environment. Mind or internal processes have no role to play in the explanation of behavioural manifestation. Thus with the help of external physical stimuli, responses, learning histories and reinforcement it tries to explain the meaning of human or animal behaviour. It is for this reason that this type of behaviourism is a research programme within Psychology. This type of behaviourism we find in the work of Ivan Pavlov, Edward Thorndike and to some extent in Watson. In the work of B.F. Skinner we find the fullest and influential expression of the Psychological behaviourism. Skinner’s theory of behaviourism is best known as radical behaviourism. Skinner did his experimental works mainly in comparative psychology. His development of behaviourist psychology was a distinct kind and that is why his theory is generally known as radical behaviourism.

Skinner virtually rejected the psychological behaviourism and favoured strongest version of Watson’s views. He argued that behaviour should not be studied for observing mental processes. It should be studied for its own sake. Moreover, according to Skinner, apart from behaviour, there is no interest to study the mental process, because mental processes are manifested in behaviour. Thus mental processes are to produce behaviour only and as such these have no supposed consequences. It is only behaviour with which science needs to concern. Thus radical behaviourism does not believe any reference to
inner states of organism that may be the causes of behaviour. On the other hand, this type of behaviourism firmly believes that the study of behaviour should be a natural science, such as, Chemistry or Physics. This is the basic premise of radical behaviourism.

Moreover, Skinner’s view of reflex is a correlation between stimulus and response. His stimulus response psychology is not physiological psychology because he does not believe the physiological link between stimulus and responses. While Watson believes that behaviour depends on preceding stimulus, Skinner believes that behaviours are dependent upon what happens after the response. In maintaining the functional relation between stimulus S and response R, he says that it is R=f(s).

It is to be noted here that the above mentioned three types of behaviourism are distinct from logical point of view. But in Skinner’s radical behaviourism combines all three forms of behaviourism and therefore all these three forms are often found in one behaviourism.

Skinner’s radical behaviourism can be categorised as a form of methodological behaviourism when this theory concerns with the behaviour of organism without considering internal processing.

iii) *Analytical Behaviourism:*

Analytical behaviourism is also known as Philosophical or logical behaviourism. This type of behaviourism deals with the meaning of mental terms or concepts within philosophy. This theory states that what we call mental states or conditions are nothing but behavioural dispositions or tendencies or family of behavioural dispositions or tendencies. This type of behaviourism we find in the work of Gilbert Ryle and later works of L. Wittgenstein. Take for example the mental
term ‘belief’. Ryle says that ‘belief’ is a deterministic dispositional word among other words. Dispositional words signify abilities, tendencies or pronenesses to do. These also signify things in a lot of different kinds. In describing the category of verb of the word ‘Believe’ Ryle says that it is a tendency verb which does not connote that anything is brought off or got right. He puts forward his opinion that there are different adjectives by which the term ‘belief’ can be qualified. To exemplify adjectives, he mentions “obstinate, wavering, unswerving, unconquerable, stupid, fanatical, whole-hearted, intermittent, passionate, and childlike ……..”

Ryle also says that some or all of these adjectives are appropriate to different nouns, such as, trust, loyalty, bent, aversion, hope, habit, zeal and addiction. In explaining further the nature of belief Ryle says, “Beliefs, like habits, can be inveterate, slipped into and given up; like partisanship, devotions and hopes they can be blind and obsessing; like fashions and tastes they can be contagious; like loyalties and animosities they can be induced by tricks.”

When the term ‘belief’ is attributed to someone, it characterizes what the person might do in a particular situation and it does not attribute the person concerned with a particular internal state or condition.

Thus far we have given a brief account of the different types of behaviourism. But here we should clearly state that the purpose of our dissertation is to discuss behaviourism from philosophical point of

5. Ibid. P-128.
Each and every type of behaviourism has its historical foundation and analytical behaviourism is not an exception from it. The roots of analytical behaviourism can be traced in the 20th century philosophical movement known as Logical Positivism. In the first part of 20th century this school appears in the philosophical world with their distinct purpose and the method they used was verification. By ‘verification’ they meant observation. According to this school, the terms and statements used in science must be verifiable in order to justify their truths. As this school stood on verification principle, their doctrine is known as ‘Verificationism’. The views of B. F. Skinner and Hempel are common to many logical positivists and that is why Skinner is called a ‘part-time analytic behaviourist’. According to them, all meaningful statements of psychology, the statements which are verifiable in principle, can be translated into the statements of physics and they need not involve any psychological concepts. This strong thesis is derived by Hempel from the following two premises. These are –

1. Verificationist theory of meaning, according to which the meaning of a statement is to be established by the possibility of verification of the state of affairs the statement describes, is to be used as a method for determining the meaningfulness of an expression in a language.

2. To ascribe particular mental state to someone, his physical behaviour plays an essential and large part of the evidence.

Thus, putting together these two premises Hampel concludes that
the statements about mental states are equivalent largely to the statement about physical behaviour.

But critics point out that Hempel is not a thoroughgoing behaviourist on the ground that he does not reject mental processes altogether. Hempel believes that to verify mental processes of a person behavioural expression includes certain other things viz., changes in the central nervous system, blood pressure, digestive system etc. For example, 'Paul has a toothache' includes certain changes in his central nervous system, his blood pressure and his digestive system, over and above the verification conditions. But Hempel firmly believes that although these changes take place in Paul's physic, it is gross bodily movements that play a large role to verify the psychological statements and to determine their meanings. Thus in Hempel's theory bodily movements are not the only factor to determine the meaning of mental processes although it helps largely. And as bodily movements play a great role in his theory, he is called a behaviourist to a significant extent.

Gilbert Ryle is often called an analytical behaviourist who has much influence on behaviourism. But his behaviourism is quite different, both in content and motivation, from the behaviourism of Hempel who is called a positivistic sort of behaviourist.

Ryle develops his behaviourism by criticizing the Substance dualism, particularly Descartes interactionism. A substance dualist believes that human being possesses a body and a mind. Mind is something non-physical and thus non-spatial. All mental states reside in such a non-spatial, non-physical mental substance. So mind is private but body is publicly observable. But Ryle says that there is no such thing as private entity. In his own words: "To talk of a person's mind is not to
talk of a repository which is permitted to house objects that something called ‘the physical world’ is forbidden to house; it is talk of a person’s abilities, liabilities and inclinations to do and undergo certain sorts of things, and of the doing and undergoing of these things in the ordinary world.”

Ryle says that the dualistic theory of mind-body relation is false in principle. It is not fact that this theory suffers from different kinds of particular mistakes combined together but from one big mistake which he called ‘category mistake’. This is a special kind of mistake according to him. This mistake arises when the mental life is assumed to belong to one category when it really belongs to another category. The philosopher’s myth is therefore called by Ryle as ‘dogma’. The concept of ‘category mistake’ is explained by him by giving a series of examples. One such example is that a foreigner when for the first time visits Oxford or Cambridge to see the university and he is shown all the colleges, libraries, playgrounds, museum, scientific departments and administrative offices. But after seeing all these he assumes that he has not seen the university. He admits that he has seen all those that are shown but asks where about of the university. He forgets that all that he has already seen together constitute the university. University is seen when all these are seen. Denial of seeing university is based on a mistaken assumption. Thus category mistake occurs due to misunderstanding of the use of ordinary language.

In explaining the nature of the mind Ryle says that mind is composed of sensations, feeling and image which are the stuff of mind. To talk about mind or consciousness as some world behind or beyond the activities is a mistake. The meaningful reference of the concept of

6. Ibid. P - 190.
mind is a description of how people behave.

Again, Ryle says that ‘Intelligence’ is a mental word. We do not significantly use ‘Intelligent’ as an adjective of stones that are fully material and governed by mechanical laws. Now, recognizing that words like ‘Intelligence’ which express mental concepts do not name entities that obey mechanical laws. Ryle says that in that case philosophers are tempted to think that they must name entities which obey non-mechanical, spiritual laws. In fact, however, it is a category mistake to suppose that they name some entities. The function of the word ‘Intelligence’ is to describe a specific kind of human behaviour and the functions of the word ‘stupidity’ is to describe another specific kind of human behaviour verifiable by sense perception. These words expressing mental concepts do not name occult, private entities that are spiritual.

Ryle explains mind in term of behaviour, skills, tendencies, propensities, dispositions, inclinations. He even says that the higher operations of mind are the higher order abilities which are developed by proper education in society and by the learning method of trial and error. He declines to talk of mind in a Para-mechanical language because he does not believe that there is something occult, mysterious or other worldly where mind exists.

L. Wittgenstein also developed his theory by criticizing Cartesian dualism. Unlike dualistic theory Wittgenstein maintains that there is nothing in the mind which is called ‘mental states’ and so it cannot be described in the way a room can be. For him, mind stands not for mental entities but for mental activities.

Wittgenstein admits the possibility of knowing other person’s
pain as one can know his own. Thus regarding the privacy of sensation he says, “In one way this is false, and in another nonsense. If we are using the word ‘to know’ as it is normally used (and how else are we to use it), then other people very often know when I am in pain.”

He further says, “I can be as certain of someone else’s sensations as of any fact”.

Wittgenstein firmly believes that the way to know other persons being in pain is his behaviour and his words, and the circumstances. As he says, “An ‘inner process’ stands in need of outward criteria.”

2.1.3 A Critique of Analytical Behaviourism

C. A. Mac points out that analytical behaviourism does not deal with the truths about a person’s mind or states of consciousness which are expressed in our everyday statements. Their claim is that such statements are about the behaviour of material things and by ‘material things’ they mean about a person’s bodily states, bodily acts, bodily states of readiness, dispositions to act in various ways.

It is argued that Ryle’s theory of analytical behaviourism fails to explain higher process of mind like creative thinking, integral vision of things and artistic imagination because he confined the sphere of mind to abilities and behaviour. The integration of human personality is very much essential for evolving higher process of mind. Creativity and integration give meaning and significance in human life. But Ryle fails

8. ibid. p-224
9. ibid. sec-580
to include these in his theory of mind. He explained his theory of mind only from the standpoint of behaviouristic and empirical consideration.

Thus, critics point out that Ryle is not successful in analysing the mind as there are certain prejudices in his theory and it does not give full justice to all realms of mental life. This is due to the fact that he stopped his analysis on disposition and did not go ahead. Against the dualistic philosophy he was so much prejudiced and influenced by behaviourism that he forgets many truths of experiences and make hasty generalizations.

Logical Behaviourism deals with the meanings of our mental state terms and concepts. According to this theory, the meaning of all statements about mental states and processes and statements about behavioural dispositions are same. To say that, for example, “Henry has a toothache” and “Henry is disposed to cry out or moan and to rub his jaw” are equivalent in meaning if and only if other things are found equal. Again, if both the statements about mental states and the meanings of the statements about behavioural disposition are equal in meaning, then there is no problem to apply mental state terms to oneself and to others, and there will be no problem to teach and learn. But philosophers like Chisholm and others argue that this account of mental terms is implausible.

On the light of above discussion of different types of behaviourism, such as psychological, methodological and analytical, it is clear that they are distinct from one another. All these three forms are combined in Skinner’s radical behaviourism. In his ‘Verbal Behaviour’ (1957) and other writings Skinner tries to show that behavioural interpretations can be given to mental terms. He very emphatically
stated in his ‘About Behaviourism’ (1974) that mental terms can be translated into behavioural terms when these cannot be eliminated.

Similarly, radical behaviourism can be shown as a form of methodological behaviourism as it is not concerned with internal processing but with the behaviour of organism. From another point of view radical behaviourism can be shown as a form of psychological behaviourism. It is psychological when this type of behaviourism understands behaviour as a reflection of frequency effects among stimuli.

Now, we will give a sketch of likeness and differences between behaviourism and the identity theory. These two theories are found alike when we discuss the term ‘disposition’ which is used by the behaviourist. An object is said to have a disposition when in a particular state certain things happen to it, other things will happen to it. An object is said to be brittle if in an appropriate situation, e.g., when a certain amount of sudden force applied, it shatters. In a similar way, a body has disposition means the body has the capacity to behave in a particular way in particular situation. Dispositions of that particular body are the possible states of that body. Thus both the Identity theory and the Behaviourism identify mental states and bodily states.

But in spite of their agreement on the above point, both the theories differ on important issues. They differ in defining or characterizing those states of the body. Highlighting the difference between these two theories J. A. Shaffer says:

“Behaviourists wish to define those states in terms of what changes they result in when certain specifiable conditions obtain. Identity theorists wish to define them in terms of identifiable structures
of the body, ongoing processes and states of the bodily organ, and, in the last analysis, the very cells which go to make up those organs.”¹⁰

Not only this, identity theory differs from behaviourism on other important respects too. In analysing the meaning of the mentalistic terms, the behaviourists offered the notion of ‘dispositions’ to behave in certain ways. But unlike behaviourists, the identity theorists do not attempt to analyse the meanings of mentalistic terms. For identity theory to have particular thought in someone’s mind means that in the nervous system of that person certain events are going on. But it is not possible for someone to understand what these events are. Even the neurophysiologists of present time are not capable of being to understand these events. Neurophysiologists firmly believe that to understand the cause of behaviour the only way is the direct study of the brain. Hence it is said by the critics that behaviourism has lost much of its strength and influence.

Behaviourism as a theory in psychology or philosophy reigned supreme up to the middle decades of the twentieth century. But this theory fails to solve a lot of problems and the difficulties of this theory had led to its general weakening and subsequently this theory lost all its appeal. Methodological Behaviourism was effectively attacked by the linguistic Noam Chomsky and in psychology this theory has lost its appeal as doctrine. According to Chomsky, the claim of methodological psychologists that when we study psychology we actually study behaviour is as unintelligent as the claim that the study of physics is the study of meter readings. In physics when we use meter readings, it is actually used as evidence. So also in psychology behaviour is used as evidence and nothing more. Thus the subject matter

¹⁰ J. A Shaffer (1994), Philosophy of Mind, P 42.
and evidence we have about a subject matter are not synonymous. It is a mistake to confuse these two different things. Chomsky emphatically stated that human mind is the subject matter of psychology and behaviour is a feature of mind and evidence that mind exists. Thus behaviour itself is not mind.

Moreover, it is possible on the part of a person to have mental states without having the relevant behavioural dispositions. Similarly, a person may have behavioural dispositions without any mental state. For example, a person suffering from a severe pain but may not show any pain-behaviour if he is motivated to suppress the pain. Similarly, a skilled actor can show pain behaviour under certain conditions, even though he does not actually feel pain. Thus according to critics of behaviourism, it is implausible to assume that mental states by itself gives rise to particular behaviour without possessing different types of additional mental states.

So far we have given a brief outline of the defects of the methodological behaviourism but the difficulties that have been faced by the logical behaviourists are more vigorous. This theory holds that a statement about a person’s mental state can be translated into a set of statements about that person’s actual and possible behaviour. But this claim is not practical. It is impossible for anybody else to give a plausible account of remote mental state of a person and its actual and possible behavioural expressions. It is difficult to specify the antecedent of the hypotheticals and this problem leads to circularity. For example, Mr. John believes that it is going to rain. This mental state of Mr. John would be analysed by the behaviourist into an assumption of a set of behaviour which would help Mr. John to avoid rain and remain dry. On the basis of John’s belief that it is raining, the behaviourists assume that
he will carry an umbrella and this assumption will be plausible if we suppose that the desire of Mr. John is to remain dry. But here is circularity in this reduction and this circularity is the analysis of belief in terms of desire. Here the reduction is not really the reduction of belief to behaviour; rather it is a reduction to behaviour plus desire and this desire is no doubt a mental state and therefore, it is necessary to analyse this mental state.

Again, we can see that about the reduction of desire, analogous remarks could be made. If we say that it is a desire of Mr. John to be remain dry then it depends on the disposition of him to carry an umbrella and all these will be plausible on our assumption of the fact that Mr. John believes that it is going to rain.

Similar objection can be raised against the analysis of mental statements in terms of behavioural statements.

Another difficulty for the behaviourist is that they deny the causal relation between internal mental states and external behaviour which goes against our intuition. We commonly believe that if someone is in pain then it causes him to cry and this cry causes him to take aspirin in order to get relief from pain. Similarly, it is an apparent truth that someone's belief that it is going to rain and his desire to stay dry cause him to take an umbrella. This denial of causal relation by the behaviourist is due to the fact that they do not admit the existence of any internal mental states.

It is true that all the drawbacks that have been stated against the behaviourist theory makes the theory sheer implausible and consequently this theory lost lustre by the 1960s. This change of status led the materialist-minded philosophers to think for an alternative and
behaviourism was gradually replaced by the doctrine called ‘Physicalism’, which is sometimes called the ‘Identity Theory’. Thus this theory appears in the philosophical domain as a reaction to the failure of behaviourism. In this connection we may refer Edward Feser’s view, who says,

“Inspire by the fact that mental states and processes seem clearly to be inner processes of some sort, and states and processes that cause outward behaviour, materialist turned away from behaviourism in the 1950s and 1960s, and tended to favour instead the identity theory.”

Thus the basic insight of behaviourism is that there are no two entities but one- the body and that the so called mind has to be explained in terms of body. According to this theory, a statement about mental state of a person can be translated into a set of statements about person’s actual and possible behaviour. This theory denies causal relation between internal mental states and external behaviour. It is because of the fact that over and above external behaviour, this theory does not admit any internal experience. These and some other features of behaviourism that we discussed are the main problems to which the identity theory reacts. The propounders of identity theory attempt to solve these problems and develop a more plausible theory of mind. It is due to this fact that behaviourism is said to be a precursor of identity theory.

2.2 Functionalism

In the last section, we have analysed briefly the main theme of behaviourism, criticizing which the identity theory developed. In this section we will discuss another theory known as Functionalism which
has much affinity with Identity theory. In contemporary philosophy this theory is supposed by some thinkers to be a theory of mind developed largely as an alternative to both Identity theory and Behaviourism. But without going to any debate whether Functionalism is an alternative to the Identity theory or it has commonness with this theory, we will discuss this theory and its different forms, and finally we will draw our conclusion considering the views of different philosophers on this field.

According to functionalism, all mental states are identified by the role they play in the system; they are not identified with what they are made of. Particular type of mental states like thought, desire, pain etc. do not depend for its identity on its internal constitution, a mental state is dependent for its identity on the way it functions or on the role it plays in the cognitive system of which it is a part. The causal relations to sensory stimulations, other mental states and behaviour determine the identity of a mental state.

Consider, for example, pain. The functionalists will say that a particular pain may be caused by bodily injury. The sufferer experiences anxiety and desires to get rid of this state. If the sufferer lacks any stronger or conflicting desires to withhold the expression of pain, he will manifest wincing or moaning. This theory holds that all those who are capable of being in pain are creatures that have internal pain states only if they meet these conditions. Analysing this, the functionalists hold that these conditions are met by human beings as they possess some distinctive kinds of neural activity, e.g. C-fibre stimulation and therefore by undergoing C-fibre stimulation they can be in pain. Moreover, this theory also holds that other creatures having different physical constitution such as, let us suppose for the sake of argument, silicon-based states of hypothetical Martians or inorganic states of
hypothetical androids provided they meet the said conditions. Pain is multiply realizable, that is, pain can be realised by different types of physical states in different kind of creatures.

Functionalism holds that without taking into account the underlying physical medium, e.g., the brain, neurons etc, mental states can be sufficiently explained as because mental states are nothing but the corresponding functional role. Only higher-level functions in the cognitive system are sufficient to explain mental states. Thus, according to this theory mental states can be realised in multiple ways as because these are not limited to particular medium. Theoretically these can be realised even in non-biological systems such as computers. Mental states may very well be compared with a valve. A valve is said to be so, so long as it performs its proper functions- controlling the flow of liquid through a tube by blocking and unblocking its pathways. It does not matter, whether it is made of plastic or metal or whatever material, so long it does the job of a valve said to do.

Here, one thing can be said that functionalism is compatible with dualism which believes mental states to cause, and be caused by physical states. As this theory does not impose any logical restriction on the nature of the item that satisfies the conditions, so it permits non-physical states to play the relevant roles, and thus realize mental states. Thus this theory is called by some philosophers as “topic-neutral” because it believes a state’s causal relations with stimulations, behaviour and with one another.

It is to be noted here that the term “Functionalism” is not used in any specific sense. This point is openly admitted by Ned Block. In his article ‘Introduction: What Is Functionalism?’ Ned Block begins with
"It is doubtful whether doctrines known as “functionalism” in fields as disparate as anthropology, literary criticism, psychology, and philosophy of psychology have anything in common but the name."\textsuperscript{12}

The term ‘Functionalism’ is used in very vaguely and in different ways and that is why the critics of this theory argued that the theories of mind advocated by Place, Smart and even Armstrong were at bottom functionalists. It is said that there is very much affinities between the word ‘functionalist’ and the word ‘function’ in mathematics. These affinities can also be extended to ‘function in biology. A function in mathematics is a set of ordered n-tuples. If the functionalist define mental states and processes as a set of stimulus–response pairs then this definition is likely to be ‘functional’ in mathematical sense. In biology one defines ‘eye’ by its function. Here ‘eye’ means human eyes and not other animal’s eye. Because eye of fly and eye of dogs are anatomically and physiologically very different from that of human’s eye. Thus the biological use of the term ‘function’ and functionalist use of the term ‘function’ probably have a closer connection. Both mental states and processes and their causal roles are identified by functionalism and neural states and processes posses the functional roles. But this fact is denied by an eminent neurophysiologist Sir John Eccles. According to him, all functional roles are not possessed by neural states and processes. So some thinkers equate functionalism with that of a black box not in the sense of black box of an aeroplane.

It is presumed that brain activity has causal link with inner mental state which enable to cause behaviour. But the black box theory of

\textsuperscript{12} N. Block (Ed.) (1980), \textit{Reading in the Philosophy of Psychology}, Vol. - 1, p-171.
functionalism puts everything into the black box without explaining the
details of the connections except explaining the mental concepts in
terms of functional role. This theory does not put emphasis in knowing
the mechanism that occurs inside the black box. But it is our natural
curiosity to know the inner mechanism of the brain which black box
theory fails to fulfil and there by intellectually this theory is
unsatisfactory.

2.2.1 Antecedents of Functionalism

Aristotle’s theory of soul can be considered as an ancestor of
functionalism. Aristotle developed his theory of soul in contrast to Plato
who claims an independent existence of soul from body. Against this
view, Aristotle holds that human body is natural and organized one
where soul is the ‘form’ of this organization. Soul is the function of the
body, as sight is the function of the eye. So describing the nature of
body Aristotle says that human body is a set of powers or capacities
which is enabled to express its essential what ness. The soul comprises
whatever capacities are required for a body to live, to perceive, to reason
and to act. Thus, according to Aristotle, soul is not a thing that comes
into a body and goes out of it. It is rather a function. Thus it is clear that
the basic idea of functionalism is not a new one. Its seeds were there in
Aristotle’s philosophy.

Another philosopher of 16th century named Thomas Hobbes may
also be called an ancestor of contemporary functionalism. In describing
the nature of reasoning Hobbes said that reasoning is a kind of
computation which proceeds by mechanistic principles. He compares
reasoning with the rules of arithmetic. In his famous book Leviathan,
He says-
Reasoning is "nothing but reckoning, that is, adding and subtracting, of the consequences of general names agreed upon for the marking and signifying of our thoughts."^13

He also says that reasoning, imagining, sensing and deliberating about action can be performed by the systems of various physical types. Because, in Hobbes’ view, all of these proceed according to mechanistic principles. In the introduction to *Leviathan*, he says that all automata have an artificial life, as an engine can move by its spring and wheels. Similarly he says that heart is constituted by its springs and so many strings together constitute the nerves and so many wheels together constitute the joints.

It is claimed that in the first part of 20th century functionalism was very much influenced by Turing’s work (Turing, 1950). Many theorists of that time explicitly invoked his work. In order to make the question that “can machine think?” accessible Turing’s proposal was that the question may be replaced by another question like - “Is it theoretically possible for a finite states of digital computer to provide responses to questions that would fool an unknowing interrogator into thinking it is a human being?” in other words “Is it theoretically possible for a finite states of and appropriately programmed digital computer to pass the Turing Test?” Turing argues that this replacement of the question is a legitimate one and the answer is in affirmative. He also says that states of a system are defined solely by their roles in producing further internal states and verbal outputs. The suggestion is that the concept of intelligence should be understood and explicated in terms of functionality and computability. This view of Turing has been incorporated in contemporary functionalists’ theories. A class of

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theories also was inspired by Turing's argument. The machine-state theory was initiated by Hilary Putnam. Here we need not discuss Putnam's machine-state functionalism as because in our latter pages we will discuss this matter elaborately.

In the early-to-mid 20th century behaviourism emerged to explain the mind-body relation. These behaviouristic theories are also important recent antecedents of functionalism. We have already discussed about behaviourism. Contemporary analytic functionalist theories retained and elaborated the idea of behaviourism that the meaning of mental-state terms and concepts show an essential tie between mental states and their typical behavioural expressions. Thus behaviourism can rightly be recognised as an ancestor of functionalism.

2.2.2 Different Types of Functionalism

There are different versions of Functionalism. These are—Machine-State Functionalism, Psycho functionalism and Analytic Functionalism.

(a) Machine-State Functionalism

Putnam in his early functionalists' theories advocated such a type. This version was actually developed as a reaction to Behaviourism. Behaviourism as a scientific psychological theory faces some difficulties and functionalism tries to overcome these difficulties. Behaviourism attempts to explain belief with the help of desire and desire with the help of belief. This is an apparent circularity in this theory. But functionalism answered this objection by analysing the terms 'beliefs' and 'desires' in terms of their causal relations.

Behaviourism also fails to explain causal relation between mental
states and external behaviour. This objection is also mitigated by functionalism by defining mental states partly in terms of their capacity to cause external behaviour.

There are significant theories of mind known as “Computational Theories” which are rivals to behaviourism. Machine state functionalism endorses these computational theories. Putnam in his ‘machine state functionalism’ holds that all creatures that possess mind can be regarded as a ‘Turing Machine’. Moreover, operation of the Turing machine can be specified fully by a set of instructions (a “machine table” or programme). Each of these machines has the form:

‘If the machine is in state \( S_i \) and receives input \( I_j \), it will go into state \( S_k \) and produce output \( O_l \)”\(^\text{14}\) (for a finite number of states, inputs and outputs)

There are debates among functionalists on the question whether this sort of machine state operation is deterministic automaton or probabilistic automaton. Some thinkers describe this sort of machine state as the operation of a *deterministic* automaton, while Putnam’s (1967) and others’ view is that the proper model for the mind to be that of a *probabilistic* automaton.

It is true that for the early functionalist theories this Turing machines provided a fruitful model. But subsequently this theory has been loosing its earlier importance. It is because of its equation of mental states with machine table states by the early functionalist. The machine table states are defined and understood in the context of the total states of a system. There are complex and distinct internal states that are realised in human subject with intentional properties. But this

theory is unable to make functional characterisation of the realisation of these properties and thus as a model of mind it lost its initial appeal. But all these drawbacks of this theory do not mean that it has no utility in contemporary discussion. In spite of its weakness the rich and important idea that relations of input and output play crucial role in understanding internal states is the contribution of functionalism to philosophy of mind.

(b) Psycho-functionalism:

The second form of functionalism is known as Psycho-functionalism. This theory developed as a reaction to the behaviourist theories of mind in psychology and replaced this theory by the empirical cognitive model. Jerry Fodor and Zenon Pylyshyn are closely associated with this view. This theory regards psychology as an irreducible science. It also says that in describing the entities and properties of mind, we use different terms in our best psychological theories, but in terms of simple behavioural dispositions these terms cannot be redefined. This theory believes that like biological sciences, psychology also employs the same sort of irreducible teleological or purposive explanations. The biological sciences mention the different functions of internal organs of human beings, such as heart, kidney etc. For example, heart’s function or role is to pump blood, that of kidney’s is to filter this blood and to maintain certain chemical balances and so on. These functions are accounted for the purposes of the scientific explanation and taxonomy. This theory believes that for all of the mechanisms there may be an infinite variety of physical realization, but in the overall biological theory the important thing is only the role they play. In a similar manner the psycho functionalism says that the role of mental states, such as belief and desire, is determined by the functional or
causal role that is designated for them in scientific psychological theory.

Thus the distinctive feature of psycho-functionalism is that mental states and processes are nothing but those entities or properties which are postulated by human behaviour’s scientific explanation. By this it is clear that in the characterization of mental states and processes, one should not depend only on the information derived from common language or common sense. He must also depend on the information derived from observation and experiment that are done carefully and available in our hands. For example, there are phenomena, such as depression from sadness or listlessness which the psycho-functional theory might be able to distinguish. But it is very difficult to untangle the distinctive causes and effect of these syndromes solely by consulting intuition or appealing to common sense.

There are certain things, such as buyer’s regret or hysteria which have no scientific evidence. The psycho-functional theories refuse to characterize these as mental state although commonsense affirms the existence and efficacy of such states.

(c) Analytic Functionalism

The third form of functionalism is known as Analytic Functionalism which is concerned with the translation or analysis of our ordinary mental state terms or concepts. In this respect this theory is very similar to logical behaviourism. But yet analytic functionalism is different and has richer resources than latter as it admits causal relation of stimulation, behaviour and other mental states. According to this theory, the theoretical terms which are used in a particular theory are implicitly defined by that theory. For example, the terms ‘belief’, ‘desire’ or ‘hunger’ become meaningful when these are used in our
commonsense "folk psychological" theories. These terms are analysed conceptually. Under the following form these can be expressed:

"Mental state $M$ is the state that is caused by $P$ and causes $Q$

For example, pain is caused by something, e.g., sitting on a tack. This pain also causes one to moan. Thus there is a causal role in such a chain that defines 'pain'.

In addition to these different types of functionalism Ned Block mentions another type of functionalism called Metaphysical functionalism. According to him, this type of functionalism deals with the question –what are mental state? This type does not concern with how mental states account for behaviour. In response to the question the theories of thos type say that mental states are functional states. Such theories are sometimes described as ‘functional state identity theses’. The important question with which these theories deal is –'What is pain?' In other words their main concern is to find out the common features of pain by virtue of which all pains are called pain. It is to be mentioned here that metaphysical functionalism is not concerned with any particular pain or tokens rather this theory deals with mental state types. In explaining the common features of pain both metaphysical functionalism and physicalism differ. According to functionalism, it is function which is common in all pains but according to physicalism, it is physical. Similarly, the behaviourism says that it is behavioural. Thus one of the disagreements between functionalism and physicalism and behaviourism is that of metaphysical and not ontological. In describing the difference between functionalism and physicalism Ned Block says,

"Functionalist can be physicalist in allowing that all the entities (things, states, events, and so on) that exist are physical entities, denying
only that what binds certain types of things together is a physical property".15

As a material monist theory of mind functionalism asserts that everything is physical. This theory is significant as it is both a response to and a development of behaviourism and at the same time it paved the way for empirical work in neuron-physiology and also for cognitive science. Behaviourism understands consciousness in terms of sensory input and behavioural output. Thus in any input and output system, e.g., a water tank has consciousness which is very odd. Functionalism also believes such system but in addition to input/output they add ‘function’ as an intermediary step. To them, before any output, sensory input is processed by a function. Functionalism supposes that:

1. Inputs generate some functions in the system
2. Outputs of a function, either some or all, without any expressive behaviour, can form the input to another internal function.
3. One type of function can lead to one or many outputs.

The diversity of the mind can be theoretically accounted for with the help of this simple device. Functionalism also assumes that the physical structure realizes the functional structure in a human being.

For example, a car receives multiple inputs in the form of oil,

water, air etc. and it produces output in the form of motion, heat, gases etc. There is a process or function in between input and output. In this case the car’s motion can be used to generate electricity which in turn also forms inputs to the combustion process.

In his introductory chapter of 'What Is Functionalism” Ned Block mentions that there are many functionalists who consider themselves to be descendants of behaviourists. Among them David Lewis, D.M. Armstrong and J. J. C. Smart are prominent. They attempted to define a mental state in terms of specified stimuli and potential behaviour. For example, there are a set of dispositions with which the desire for an object, say ice-cream cone might be identified. Other things being equal, it also includes the disposition to reach on the spot where it is available and grasp an ice cream cone on condition that it is offered by someone. But emphasizing the phrase “other things being equal” the critics have declared that this phrase is behaviouristically illicit. Because according to them, with reference to other mental state it can only be filled in. These dispositions include the capacity to reach on the spot where it is available, other things being equal. Criticising this explanations the functionalists hold that the phrase “other things being equal” is behaviouristically illicit. Because according to them with reference to other mental states it can be filled in. The person who desire for an ice cream cone will be able to reach on the spot for it only on the condition that he knows very well that it is really an ice cream cone. Not only this, the person must also be sure that his taking of desired ice cream will not create any conflict with other desired objects which seem to be more important to him.

There are two major respects in which functionalism in all its forms differs from behaviourism.
Firstly, mental states are defined by the behaviourism in terms of stimuli and responses. This theory does not consider mental states as the causes and the effects of the response and stimuli. Rather it takes mental states as 'pure dispositions'. In this connection we may refer the view of Ryle who emphatically says that possession of dispositional property does not mean a particular state or a particular change. This fact is highlighted by him with the example that brittleness means breaking easily. In no way it means cause of breaking. In the same way it is said that to attribute pain to someone means what the person concerned would do in certain circumstances. In no way it attributes a cause or effect of anything.

Lewis in his paper (1966, p-166) narrates the features of functionalism which is in contrast to behaviourism. According to him, experiences are something real and as such these experiences are to be the effects of their occasions and at the same time causes of their manifestations. Armstrong also says that we speak or act not for fulfilling certain conditions that yet not fulfilled. He says that these are something which is currently going on and this fact is denied by Rylean behaviourism. It is for this reason Armstrong says that Rylean behaviourism is unsatisfactory.

Another difference between functionalism and behaviourism is mentioned by Ned Block. According to him, in describing 'pain' behaviourist emphasizes on the connection between stimuli and responses. But in addition to just connection between pain and its stimuli and responses, functionalism emphasizes its connection to other mental states.

But in spite of their differences, in spirit both the theories are not
far from each other. In explaining their proximity Shoemaker says, "On one construal of it, functionalism in the philosophy of mind is the doctrine that mental, or psychological, terms are, in principle, eliminable in a certain way."^{16}

Ned Block in his article "Troubles with Functionalism" (1980 b) highlighted several problems of functionalism. One of them is known as "Chinese nation" or "Chinese brain" thought experiment. This problem is based on a supposition that the entire nation of China is a brain and each individual of that country acts as a neuron and they are systematically organised to operate different functions. According to Functionalism this system should be a real mind which possesses consciousness and other mental states provided that people are performing the proper functional roles, with the proper causal relations between inputs and outputs. Since this is patently absurd Ned Block points out that there is something wrong in this theory.

Like all other materialist theories, this theory fails to solve the problem relating to the difference between physical and conscious states which is very apparent. The problem, for example, is that one's experience of eating breakfast cannot be understood in purely physical terms. The person concerned might be the world's foremost neuroscientist but his description of neurological events of him is not same as the description of his experiences. It is only by conscious awareness he experiences his breakfast as delicious.

Moreover, functionalist account of mind creates another problem. When this theory describes mind purely in physical way it requires the laws of cause and effect and thereby it gives us a

deterministic account of mind. Though it is not a refutation of the theory, but it is at odd with our nature of experience.

In his Epiphenomenal Qualia published in Philosophical Quarterly, 1982 and other article "What Mary Did not Know", 1986 Frank Jackson argues that by direct observation of the physical processes of the brain it is not possible to ascertain someone else's experience.

There is an objection against functionalism known as 'inverted spectrum' or 'inverted qualia scenario' which is specifically stated by Ned Block. This objection goes like this, a person when looks at a red object he will have red sensation. The same person when looks at a green object will have green sensations. And this fact is admitted by the people in general. But the critics of the functionalism claim that the reverse sensation is possible. According to them, the person who looks at a green object, say grass, may have a red sensation uses the word 'green' to describe the colour and the same person may have green sensation when looks at a red apples uses the word 'red' to describe the colour. In that case the word 'red' and 'green' uttered by the person would be of functional equality. But the critics say that the important thing that counts in this case is the reality that is going on inside one's mind and not the function.

Searle puts forward another argument against functionalism. According to him, it is groundless to suppose that robots can understand or perform mental acts. If it is admitted that someone has created an android which has life and its behaviours are human-like but have no qualia, then in that case, the functionalism would be incomplete or false.

There is another argument against functionalism known as the
‘Chinese room argument’, which argues that a computational system that a functionalist may speak for fails to exhibit consciousness. This objection is also known as ‘Chinese Room Objection’ which claims that there cannot be artificial intelligence for a computational system that lacks intentionality. John Searle begins the thought experiment by the following way: For example, suppose there is a person inside a room who does not understand and speak Chinese language. Outside this room a Chinese speaking person sends certain questions in Chinese to the person inside for answer. The inside person is supplied along with these questions certain symbols including English guide for each symbol’s use. Now it is possible on the part of that person to answer the questions appropriately to the outsiders in Chinese language with the help of the symbols supplied to him but still he cannot be said to understand Chinese language. In this case he has inputs and outputs which are in Chinese but the person understands nothing. Thus the person’s activity in that case is similar to that of a computer whose functions are totally depended on the software installed within it.

But before concluding this chapter we should say that it is necessary to assess functionalism in its proper form. This theory explains very lucidly the functions of the mind and as such it is a useful model for comprehending the working of the mind and thus this theory has much significance and usefulness. But still there is lacking in this theory as it fails to mitigate the problem of privacy of experience and subjectivity. It admits consciousness in simple system. This theory also fails to solve the problem of private experiences and subjectivity. Hence, we are not in a position to have a complete picture of mind and consciousness with the help of this theory.