CHAPTER IV
THE PHYSICAL-MENTAL IDENTITY

It is common knowledge today that an intimate relation exists between the brain processes and mental processes. Various attempts at exploring the working of the mind, in different sciences has resulted in various conflicting and disputable theories of mind. The last three decades has seen immense increase in literature concerning mind-body relations. The spurt in literature is dual - on the one hand there have been rather successful findings of neuro-physiologists reported in science journals, and on the other there have been new philosophical positions developed both based on and independently of neuro-physiological findings.

To begin with, it was behaviourism as a psychological theory founded by Watson which influenced philosophers like Gilbert Ryle and R. Carnap. They developed the metaphysical behaviourism also called as logical or analytic behaviourism. In this logical behaviourism it is contended that all mental processes are analysable in terms of statements about overt behaviour. Dispositions were assigned the causal role to bring about the particular behaviour under particular conditions.

U.T. Place thinks that this 'dispositional analysis' can be applied to cognitive and volitional concepts but it cannot be applied to other mental processes such as experiencing, sensation, consciousness and so forth. In Place's words: "In defending the thesis that consciousness is a process in the brain, I am not trying to argue that when we describe our dreams,
fantasies and sensations we are talking about processes in our brains. That is, I am not claiming that statements about sensations and mental images are reducible to or analysable into statements about brain cases, in the way in which 'cognition statements' are analysable into statements about behaviour.

Most of the recent literature on Identity Theory takes off from three celebrated works: U. T. Place's "is consciousness a Brain process?" --- Herbert Feigl's "The 'Mental' and the 'Physical'" and J. J. C. Smart's "Sensations and Brain Processes".

One label seems to be appropriate to the three writers, namely they are scientific realists. They are realists because they assume that physical world exists extra-mental. They are scientific realists because they accept that the most acceptable account of the world is one given by contemporary natural science whose creditibility lies in its success. Smart's realist presuppositions are such that they accepted the contention that "concepts and law-statements of physics, or, at any rate, the concepts and law-statements of hypothetically completed physics, suffice, in principle at least, to give an account of all natural phenomena". And biology, Smart believed, does not require anything more than complex physical systems to explain its workings, and consequently the workings of human organisms. U. T. Place and H. Feigl although did not go so far as Smart, they still had as their presuppositions the understanding of science as "normal science".

These three philosophers were attracted to the behaviourist thesis as an explanation of nature of mind. These authors found the behaviourist thesis very attractive in the sense that the
mind is nothing but behaviour in certain sophisticated ways. There are no inner thought processes prior to behaviour. If such is the case, then it is possible to give a physicalist account of human beings and their actions.

One notices however, certain reservation on the part of Place and Feigl. Place finds 'intractable residue of concepts' and Feigl observes 'raw feels' which cannot be reduced to behaviouristic account of mind.

The identity theory can be stated as that which holds and seeks an identity between brain processes and mental processes. There is no correlation between the two above mentioned processes according to J.J.C. Smart. Smart maintains that, "that these should be correlated with brain processes does not help, for to say that they are correlated is to say that they are something 'over and above'".

As mentioned earlier U.T. Place in his article "Is consciousness a brain process?" contends that consciousness is a process in the brain, but denies that "statements about consciousness are statements about brain processes". First, because a person's sensations and mental imageries can be described by that person without even knowing what brain or a brain process is. Secondly, the verifying methods of the statements about conscious experiences and of those about brain-processes, are different. Lastly, Place holds that, there is no self-contradiction involved in saying that one's being in pain but there being no corresponding brain events taking place.

Place argues for his statement that consciousness is a
brain-process as a 'reasonable scientific hypothesis'. He asserts an identity between consciousness and brain processes. For example, a cloud on closer observation is seen as composed of tiny particles of water droplets. From a distance we call the 'mass of tiny particles' a cloud. But there are no two things. When we are enveloped in a cloud we are able to observe the 'micro-structure' of a cloud an experience that is different from when we look at a cloud from a distance and hence its description in different words. But in this example there is the continuity between observation of cloud and observation of tiny particles and therefore the statement is easily intelligible. Whereas in case of a brain-process and consciousness there is no such continuous observation. That is, an introspective report can never reveal the brain processes going on in the brain while one has a conscious experience.

Place's strong argument for an identity between brain processes and consciousness depends upon the analysis of similarities and dissimilarities between lightening and motion of electrical charges. That lightening and motion of electrical charges is same, but statements about lightening do not mean the same as the statements about electrical charge. We are able only to observe the lightening, but not the electrical charges. Place says that, "as in the case of consciousness, however closely we scrutinise, the lightening, we shall never be able to observe the electric charges, and just as the operations for determining the nature of one's state of consciousness are radically different from those involved in determining the nature of one's brain processes, so the operations for determining the occurrence
of lightening are radically different from those involved in determining the occurrence of a motion of electric charges.\footnote{11}

Yet the two events are observed as identical not merely because of their systematic correlations but because of the capacity of 'technical scientific observations' to explain the common man's observation of the same event. In the case of 'lightening' example there is the motion of electrical charges, leading to the lightening which a common man reports as a sort of visual stimulation in the form of a flash of lightening. Place points out that similar is the case of relation between statements about sensations and statements about brain-processes. Therefore, a behaviouristic account of sensations may not be correct, but a physicalist account can still be attempted.

But this programme of identifying brain-processes with conscious experiences is threatened by 'phenomenological fallacy'. The fallacy that is committed while describing an object's properties as literal in one's 'phenomenal field'. The description of object's properties depends on our being conscious of that object. What we are describing \textit{in fact} are our conscious experiences with regard to that object and based on their phenomenal properties we infer their real properties. 'Phenomenological fallacy' leads to believing in an entity that does not have existence either in the known world of physics or in the brain of the person who has that experience. There are no 'after-images', there are only experiences-as-of-imaging-something-green. And these experiences are, according to place, identical with brain processes.
It was J.J.C. Smart's article "Sensations and Brain Processes" that was greatly responsible for putting the newly formed identity theory on a firm footing on the philosophical map. Smart tries to overcome some of the defects in Place's views and argues for an identity between sensations and brain processes, on the basis of scientific facts and knowledge that shows human being as merely 'physico-chemical mechanisms'.

Reacting to the 'phenomenological fallacy' with reference to after images smart further developed it into a theory. When someone reports 'I have a yellowish-orange-after-image' it is commonly believed that, the report contains something which is 'irreducibly psychical'. To mention them they are our sensations and states of consciousness. To allow sensations as having an irreducible psychical nature, is to place them beyond a physicalist account and thus sensation would become then 'nomological danglers'. Therefore, Smart maintained that sensations must be treated as brain processes of a certain sort. Thus, sensations are identified with brain processes.

Smart argues, "it is that in so far as 'after-image' or 'ache' is a report of a process, happens to be a brain process. It follows that the thesis does not claim that sensation statements can be translated into statements about brain processes. Nor does it claim that the logic of a sensation statement is the same as that of a brain-process statement. All it claims is that in so far as a sensation statement is a report of something is in fact a brain-process". A nation is not something over and above its citizens. Yet the logic of nation statements is different from that of citizen statements. Though
the two set of statements logically are different, Smart says, that it does not imply a nation is over and above its citizens.

A 'strict identity' is sought between sensations and brain processes. That is, sensations are not 'somehow spatially or temporally continuous' with the brain-processes. A person not knowing anything about brain-processes, but reporting his sensations of an object does not pose any difficulty to the identity-theory. As in the case of lightning, the person only knows 'lightening' as a flash of light that causes the visual stimulation, but may not know anything about electrical discharge.

U. T. Place speaks of experience which are contingent matter of fact whereas Smart claims his is a topic-neutral, in the sense that, he talks of something which is described in terms of sort of stimulus. In reply to an objection Smart clarifies, that when a person reports, 'I see a yellowish-orange-after-image' he is saying something like this: "there is something going on which is like what is going on when I have my eyes open, am awake, and there is an orange illuminated in good light in front of me, that is, when I really see an orange".

Smart emphasises the words 'there is something going on which is like what is going on when', to show that the report about one's sensations can be neutral. Smart asserts that after-image, in itself is not a brain process, rather the process by which we have an after-image is a brain-process.

The third person, namely, Herbert Feigl, helped the development of identity-theory although not to the same extent as
Smart and Place. He accuses neo-behaviourists and radical materialists for evading the mind-body problem and not offering a genuine solution for the same. He finds that, "epiphenomenalism, while not evading the problem offers a very queer solution". Again, 'person' as defined by Strawson in his meta-physical essay, seems to Feigl as synthetic coming together of a living body and occurrence of mental states in it.

However, Feigl finds the scientific task of identifying the 'raw feels' and other mental processes with the brain events, as the most plausible view. The reports of the experiments conducted by W. Cohler, W. Penfield, E.D. Adrian, D.O. Hebb, W.S. McCulloch, strengthened the correlation between the mental and the physical favouring the development of identity theory. Feigl argues for the identity theory by saying that, "the solution that appears most plausible to me, and that is entirely consistent with a thorough going naturalism is an identity theory of the mental and the physical, as follows: certain neurophysiological terms denote (refer to) the very events that are also denoted (referred to) by certain phenomenal terms. The identification of the objects of this two-fold reference is of course logically contingent, although it constitutes a very fundamental feature of our world as we have come to conceive it in the modern scientific outlook utilising Frege's distinction between sinn ('meaning', sense, 'intention') and Bedeutung ('referent', denotatum, 'extension'). We may say that neurophysiological terms and the corresponding phenomenal terms, though widely differing in sense, and hence in the modes of confirmation of statements containing them to have identical referents ...".
Going a step further Feigl tries to give some definite properties to his 'raw feels', as a result according to Place, Feigl comes close to committing the 'phenomenological fallacy' and therefore finds it difficult to show that there is no distinction between the properties of 'raw feels' and their 'neurological basis'.

On the basis of the above three fold philosophical foundations we can understand the latter developments as reaction to the same. D.K. Lewis and D.M. Armstrong seem to be further developing Smart's initial articulations of identity theory.

Lewis and Armstrong identify sensation and mental states with brain processes. They used Gilbert Ryle's theory of disposition to distinguish between mental state and outward behaviour. They propose a causal analysis of mental concepts. It is suggested that a logical analysis can be given of all the mental concepts in purely physical terms. The concept of 'brittleness' is taken as a model for proposed analysis. Being brittle means, the objects being in a particular state, such that if struck sharply, it will break. That is, the state of the object and the striking brings about the shattering of the object. Thus 'brittleness' occupies the causal role. The concrete nature of the state cannot be explained properly only from its definition but by further scientific research.

The example given is that of a gene. A gene is held to be responsible for certain hereditary characteristics, that it brings about. It is the latter scientific research, which illustrated the gen as DNA mole-cules.
According to this view, all the mental concepts are of the same sort as that of 'brittleness' and 'gene'. Just as a gene, as a cause, produces hereditary characteristics in the same fashion, a mental process can be assigned a causal role which brings about the physical behaviour, for example, the 'purpose', a mental state in the organism, which causes certain physical activities in the organism, which in turn brings about an event.

Lewis says that mental states are given to us in consciousness as occupants of causal role, that is, sensation plays a passive role to bring out certain sorts of behaviour. There are various types of causal role corresponding to different sorts of mental states. The different causal roles which constitute different mental states are of an interlocking type, such that it is not possible to give an account of one type without giving an account of the others and vice-versa.

Since the nature of that which plays the causal role, cannot be defined in this causal analysis, the materialists can maintain that these mental states are to be identified with the physical processes going on in the central nervous system.

Armstrong reacts strongly to the problem of secondary qualities particularly Smart's subjectivist account. Armstrong proposes an objectivist account (on the basis of above models of 'brittleness' and 'gene') of sensations wherein he claims that colours, tastes, smells, etc. are qualities of physical objects identifiable when the findings of scientific investigations were correlated. For instance, he claims that heat (perceived or felt) was identified with the motion of molecules of the hot object. He further claimed that complex properties of
A sharp distinction between man and the rest of nature can be made as man has a highly developed capacity for thought, feeling and deliberate action. In a limited sense the above processes may be found in animals but the full blown development of what we name as 'mind' remains unmatched. These unmatched mental processes, in the identity theory, are identified with the states of central nervous system. This theory maintains that when a person has a particular experience, corresponding to this, a particular brain-state or process takes place in the brain in the similar way in which lightning is an electrical discharge. The so-called identity between the two distinct processes - the mental and the physical - is based on the empirical research. This research shows a great dependence of mental processes on brain-functioning. But the identity theory's position that there is a perfect correlation between a person's experience and corresponding brain event goes beyond the evidence provided by empirical research.

The identity theory thesis has been criticised severely by many philosophers; particularly J.J.C. Smart's and D.M. Armstrong's positions have been critically analysed by modern analytic and non-analytic thinkers. It must be admitted that the adherents of identity theory - U.T. Place, J.J.C. Smart, Herbert Feigl, D.M. Armstrong and others have influenced latter philosophers including Richard Rorty. They have also influenced empirical research in the area.
By using the analogy of 'Morning star' and 'Evening star' Stevenson shows that, if the two stars are strictly identical with each other then we should be permitted to say that evening star appears in the morning and vice-versa. Moreover, evening star should have all the properties, including defining properties of the morning star.

The same should be true about the strict identity between sensations and brain-processes. But the present evidence falls short of supporting this type of identity. That is, the exact correspondence between the two still remains to be shown, that from observation of a person's brain-states, one will arrive at the knowledge of his experiences.

Although sensations are not synonymous with brain-processes - they refer to the very same properties, - what brain processes are referring to, Stevenson points out that, by seeking a strict identity between the two, the problem of nomological danglers has not been solved, for the sensations retain their properties, as identified with the properties of brain-processes. Further a psycho-physical law which states that a sensation occurs, when a certain brain-process takes place; the same (law) can be modified in this theory, saying that "a brain-process has $P_{\text{properties}}$ if and only if it has certain $M_{\text{properties}}$". But there remains the problem of finding out which brain-processes are to be termed as sensations and consequently a psycho-physical law in the form of "whenever such-and-such a brain process occurs, there is a sensation".

It is maintained that sensations are identical with brain-processes. In order that they should be identical, both of them
should share some common properties. Now if sensations are denied - indirectly it results into the denial of brain-processes --- as the sensation properties are properties of the brain-processes.

Smart while replying to the objections raised by Stevenson, admits that the sensation reports are topic-neutral and they are neither materialistic nor dualistic - but sensations have neuro-physiological features. Inability to specify the neuro-physiological properties, points out the 'jump' that the identity theorists take from insufficient evidence to the identity between material and mental. Objections have been raised against the theory on the similar lines by Roland Puccetti who calls it 'a materialist fallacy of mind' . According to Puccetti, our mental states can always be distinguished from physico-chemical processes going on in our brain. While commenting on the 'central state materialism' of D.M. Armstrong he says that although Armstrong's theory is consistent with scientific research, it has to face certain logical consequences as the identity maintained between the mental and the physical, cannot be accounted for. Giving an instance of an imagined experiment conducted on three people wherein, there certain neural areas were stimulated. By looking at the screen, the pictures of the stimulated nerves and other cells, each one should be able to tell correctly, what states (mental states, different sensations, etc.) would be experienced irrespective of the stimulation of a particular nerve centre in anybody's brain of the three people', as they have "equal observational access" to the pictures on the screen.

The aim of the argument here, is to show that there is a
strong disparity between what the neuro-anatomist observes on the screen and the experiences about sensations, reported by the person whose neural areas are stimulated. Puccetti firmly believes that irrespective of advanced scientific research and knowledge, the distinction between the mental and the physical will remain.

Leslie Stevenson replies to the objections raised by Puccetti referring to the experiment on three people. He says, that each one had an introspective access to their own states and this can be allowed, because the central state materialism does not deny the existence of introspective awareness of mental states that is in the theory of brain-states. However, Leslie Stevenson casts doubt on the materialist account of introspection as given by Armstrong. Leslie Stevenson's reply appears to be unsatisfactory because he is casting doubt on the identity theory while at the same time he relies on it to reply to the objections raised by Puccetti.

An argument based on mental structure is put forth by J.J. Clarke to maintain the distinction between 'mind' as an integrated whole and 'brain' physically functioning organ, like a machine. Multiple thoughts, feelings, experiences go to make up a person's mental life. Although individual perceptions and experience (one perception and experience from the other) are distinguishable, they are only episodes in one integrated whole.

Thus J.J. Clarke objects to the ground on which identity is claimed by D'weissman a supporter of identity theory. D'weissman maintains that just as by the physical change we mean a change in its structure, the mental activities (where mind is considered as
a pure act] imply a structure where activities are taking place. Further, a change is the organisation of matter in some specific way, in the same fashion mental activities are based on, or depend upon the specific material organisation and that this 'material' is identified with physical.

Although it is true that activity pre-supposes structure, it is not true in case of mind in the above mentioned sense according to Clarke. He distinguishes between formal, social and aesthetic structures. The operations in mathematics, as of giving a geometrical proof - are based on a certain system of propositions whereas in case of a car's moving, it is based on its physical parts, the way it is made up. Thus, Clarke distinguishes between a formal structure and a physical structure, and argues for an analogy between human mind and mental structure; saying 'Structures of the formal rather than the physical kind provide the most appropriate analogies of the human mind that, to put it bluntly, mental operations are more akin to formal structures such as mathematics than to physical ones such as motor cars'.

He further states that, to identify a particular colour the person must have come across 'a conceptual scheme' against which the identification is possible. The same thing can be applied to mental processes like cogitating, reflecting where person grows physically but not mentally, his thought would not make any sense, as there is no prior background to it to make it meaningful. Therefore the operations going on in mental structure are like the ones in formal structure and therefore it resembles
the formal structure and differs from physical structure.

W. Keneale points out that, in his work 'A Materialist Theory of the Mind' Armstrong is influenced by the Place-Smart view. Still he objects to it on the ground that they have paid little attention to the analysis of the mind.

Keneale remarks that Armstrong's theory cannot be a right one for following reason: "for those who say 'the mental is the cerebral' do not maintain the identity of an individual presented for consideration under two different descriptions, but talk of 26 kinds of things, events or states".

Again, central state materialists claim the intelligibility of mental without showing which things or processes are mental. They also hold that mental states are, "given solely as states apt for the production of bodily behaviour". Further, the identity between the mental and the physical, is treated as contingent and can only be understood through the scientific reassurances that is, in the neuro-physiological studies. In connection with this William Kneale comments that, they (central state materialists) can be questioned as far as their using philosophical terminologies like 'contingent' and 'empirical' are concerned. All sorts of misunderstanding with regard to this theory can be attributed to its advocates as they ignored the need of logically examining their thesis of identity and their failure to give a philosophical programme where the meaning of the mental 'must mean' what it means if the so-claimed contingent identity is to be taken seriously. Mental states are assigned the causal roles in the identity theory without giving an account of their intrinsic nature which is necessary since we experience
Mental processes are considered as important because of their role as intermediaries in the causal sequence—that is, between a stimulus and a response. A lack of further knowledge about them, forces the materialists to postulate them as 'topic-neutral'. Thus they make the way clear for the identification of the mental processes with the processes in central nervous system.

Armstrong tries to distinguish his theory from 'Two Aspects Theory' on the one hand, and Behaviourism on the other. Thus he finds the complete reduction to behaviour as incorrect and leaves it open that mental phenomena that is, the 'topic-neutral analysis makes the disembodied existence of mental states logically possible. But his assertion that mental phenomena should not have disembodied existence, shows his inconsistency in the position and inability to give a complete description of the mental in physical terms.

Armstrong names his position 'realistic reductionism' which is more persuasive that 'behaviouristic reductionism' of J.J.C. Smart. To explain the difficulty with regard to secondary qualities adopting the similar method, as used to explain the mental states he "analyses them as states possessing certain external, causal properties, but whose intrinsic nature is left unspecified by this identification" . Even if materialistic account is true in some sense, "it will not be automatically expressible in the frame work of common sense psychology" and even that some of the data, presently available discourages such
a hope, for example, the fundamental left-right bifurcation of cerebral function, to which nothing in the common sense psychology of perception and action corresponds.

The analogy between materialism and gene as DNA molecules is not a correct one. The latter is an exact scientific theory to serve the molecular biology. Contrary to this, common sense psychology, with beliefs, desires, sensations is not a scientific theory in the same sense because the mental states as causes "are picked out by a system which has evolved naturally, and whose form may depend significantly on its extra-scientific functions".

An objection may be raised with regard to the status of mental states as occupants of causal roles. Armstrong had initially stated that his aim was to do justice to these states but latter he takes the same as "rough indications" of the physical phenomena to which they are related.

Materialism denies facts such as mental experiences and after-images, which normally is accepted as what really takes place. Hence, a materialistic theory is not correct in spite of strong arguments that may be advanced in favour of this theory. Just as an unconscious person is not aware of anything, in the similar way a materialist while giving a materialist account of the mental experiences, sensations, etc., must pretend to be anaesthetised. As Broad points out, if one is conscious he would comment that the theory is false.

Don Locke defends materialism and replies to the above objection. We all know, that when we have a conscious experience, what goes on in our minds. Although we cannot explain its nature,
it is not the 'electrical discharge' in neurons, as far as our experience is concerned. Broad's view is mistaken, for it is not necessary to know what conscious experience is, in order to be conscious of something.

None the less, the major criticism against the theory that has been advanced by different philosophers is with regard to the different categories. Mind belongs to one category while body to some other category and the resulting problem of relation between the two. The problem may be formulated in Colin McGinns language: "Intuitively, the problem is that the characteristic and definitive features of the brain are different in kind (in category) from those of the mind - the former being intrinsic the latter extrinsic. This is also what prevents us identifying representational mental states with intrinsic brain states: these mental states are not, as brain states literally are, situated within the head".

McGinn believes that bodies or objects external to a person are also responsible in constituting mental states, whereas one's physical states are not constituted in the similar way. Therefore an identity between the mental phenomenon and internal physical phenomenon is just impossible.

Much confusion has been created by the name of the theory itself, as 'Identity theory'. An 'identity' can be sought between two events or two things. For that, two objects should be first picked out independent of each other and then only the identification of one with the other is possible depending on the properties of the two. As the name 'identity theory' suggest that
an identity is sought between the mind and brain. In other words, it means that materialist accepts that there are things we name as mental states and something called brain-state and on closer examination we find, that these two different states refer to the same thing. But any-talk about mental states shows that they are different from brain-states. And therefore they have different features and can be identified. Then a materialist has to identify those states, first, independent of brain-states which may lead him into trouble.

Don Locke while defending materialism says that as opposed to Double Aspect theory materialism denied mental events with features, different from brain-events. Materialism is not asserting an identity between "two independently specifiable items", i.e., "... the Materialist does not identify minds with brain, in a way that we identify the Morning Star with Evening Star, he identifies mind as being brain, in the way that we can identify a particular plane as being a Boeing 707".

Don Locke, therefore insists that materialism should not be taken as identity theory - in the sense involving first finding out two items, which are independently specifiable - as is done in Double Aspect Theory but rather should be understood as an 'identification thesis' where there is "a further specification, of a single specified item".

This further development can be seen in the 'Disappearance view' by Richard Rorty and Paul Fayerabend which is not without defects.

However, Don Locke admits a major difficulty which materialism is facing, that is, of accounting for after-images,
dreams etc. The features exhibited in the above events neither can be located in the physical world, as they do not belong to the objects outside nor they can be found in our brains, as they are not brain features. According to Don Locke they have purely a mental existence when they are experienced and cannot be accounted for, materially, and therefore materialism faces a serious problem.

According to Jerome Shaffer, the contention of the identity theory can be doubted, for it does not meet the 'co-existence requirement' which should be met, so that the identity is possible. In order to claim - 'an identity between C-states' and B-processes' they should be located at the same place. But we do not find C-states and B-processes as located at the same place. B-processes occur in the brain whereas 'it is not true that C-states also occur in the brain, or inside the body at all, for that matter. To be sure, I may have a pain in my leg or in my head, we do locate sensations in the body. But that is not to say that we give location to the state of consciousness that I have when I am having a sensation. The pain is in my leg, but it is not the case that my state of being-aware-of-a-pain in-my-leg is also in my leg. Neither is it in my head'.

Criticisms levelled against the identity theory show the non-correlation between the mental and the physical. It appears that the gap between the two is unbridgeable. Professor Ayer makes similar comment: "If what we are seeking is a bridge to cross a seemingly impassable river, it will not help us merely to elevate one of the banks".
A scientific explanation regarding mind body problem, is doubted since on these scientific hypothesis mental events and brain processes would require to be predicted as a sort of special events and therefore it will be unscientific account. Even though a perfect isomorphism is established between our brain-states and mental processes, considering that the person concerned on whom the experiment may be conducted may be a neuro-anatomist, who has to confirm the occurring of particular mental states when certain centres are stimulated in his brain, and therefore the success will be essentially based on a private report. This shows that any number of researches done to explore mental in terms of physical will not confirm the identity between the mind and the brain. Puccetti maintains that, "what I mean is that our experience of uniquely private mental events is a fundamental fact of human life (and, apparently, of some other Earth-bound forms of animal life). To ask how or why, this is so, seems to me an entirely vain question".

The characteristic principle of all materialists and physicalist, is that they uphold the principle that the world is self-contained or causally closed. But in their reductionist programme they face the difficulties as far as 'intractable residue of concepts' and 'raw feels' are concerned. In other words experience, sensation, and mental imagery in terms of inner processes, they find as irreducible. Herbert Feigl insists in his theory of 'psycho-physical' identity that not only mental processes are real but that they are things in themselves. Hence they are not 'irrelevant' as we find in epiphenomenalism.

If we suppose that materialism is true, then logically we
cannot know, it to be true. For if our opinion is treated as solely the result of chemical processes taking place in the brain, they are determined by the chemical laws and not of logic. Thus materialism can be seen as self-defeating.

Armstrong's theory cannot be strictly classified as an 'identity theory' for unlike Feigl, Armstrong has not identified the conscious processes along with brain states. As he reduces the importance of consciousness and its significance, it can be termed as epiphenomenalism. Armstrong fails to discuss Popper's World 3 objects (objects of human artifacts, theories etc. created by human mind). Since it requires conscious efforts (worlds, consisting of consciousness and other mental processes) on the part of the individual to understand world 3 objects in Popper's psychophysical interactionism.

Popper points out that the identity between a mental state and a brain-state cannot be advanced on the basis of gene-D.N.A. analogy. For the later has got the empirical evidence in its support, whereas in case of former analogy, we know that mind is not an organ and there is no evidence to say that the corresponding physical change in the brain is sufficient to explain some triggered behaviour in an organism.

Thus, Popper says that the claim in the analogy is not only unwarranted but even misleading. By making use of some physical vocabulary the problem will not be solved as is understood or thought by its supporters. If we stop using 'mental language' (the language that is used to refer to mind and mental processes) that does not imply that, mind and physical processes does not
exist or that their problem is solved. By using different language, the things cannot be made different or thing will not be different.

In the physical mental identity theory the ontological distinction between 'the mental' and 'the physical' is not maintained. It rejects 'mind' as an ontological entity only to reduce it to physico-chemical brain-processes. A version of physical-mental identity theory maintains that, there are no 'minds' but there are only 'brains' accepting a sort of monism which 'explains away' mind.

NOTES :

2. The term scientific realists is used in the sense, they do not indulge in metaphysical discussions or speculations of transcendental mind as an independent reality whose justification is non-empirical.


4. Kuhn uses the term normal science to describe science as traditionally understood - real, objective and its laws as universally final.

5. Behaviourism works at two levels at the level of explanation of what essentially constitutes mind, and at the level of methodology. Methodologically speaking behaviourism would be the thesis that we have no other way to understand what 'mind' is except the way it works/ functions ontologically behaviourism would accept (Gilbert Ryle-Concept of Mind) mind as nothing but the way body functions.

6. The 'intractable residue of concepts' that Place talks about are those elements which force us to explain notions of consciousness, experience, sensation, mental imagery in terms of some inner processes.

7. 'Raw feels' was first coined by the psychologist E.C. Tolman.
He meant roughly the unconceptualised items of direct experience, sentience, the phenomenally given (e.g. sense-data or sensations). Feigl uses the term to refer to common referents of phenomenal terms and certain neurophysiological terms with logically independent sense.


10. Ibid., p.44.


12. Phenomenal field is what psychologist calls, a peculiar sort of internal cinema (after-images) on the mental screen, Ibid., p.49.


14. Feigl uses the expression 'nomological danglers' for the laws whereby the entities dangle. Smart uses the expression to refer to the dangling entities themselves.


16. Strict Identity: An example of a general is given. A successful general who is in the present time slice, is the same one who as a small boy stole and ate the apple in an earlier 'time slice'. Smart talks about the four dimensional object which has 'the general - I see - before me for its late 'time-slice' is, identical in the strict sense with the four dimensional object which has the small boy - stealing apples for an earlier 'time-slice'.

17. Ibid., p.60.


19. Ibid., p.38.

20. Gestalt Character: The 'heat' perceived or felt, of objects, can be identified with the motion of the molecules of the hot object. The proposed model for such an identification, as in the above example, was that, a complex property of the
objects is grasped by a perceiver as a simple, which cannot be analysed, 'gestalt'. Armstrong thinks that though it solves many problems for the physicalists, it remains very implausible phenomenologically.


22. Ibid.


25. Ibid., p.525.


27. Ibid., p.295.


29. Ibid., pp.398-399.

30. Ibid., p.399.


33. Ibid.


35. By C- States Shaffer refers to the mental states e.g. feeling pain, having an after-image, thinking about a problem, etc. B-Processes are brain-processes.

36. Ibid., p.115.
