THE IDENTITY THEORY
AND FUNCTIONALISM

CHAPTER IV
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In this chapter, I shall discuss another philosophical theory of mind, called The Identity Theory and is also sometimes referred to as reductive materialism. The central idea in this theory of mind is that each type of mental state or process is numerically identical with some type of physical state or process within the brain or central nervous system. Because of great advances in the empirical disciplines of psychology and neuro-physiology, it is maintained that mental states and processes are nothing more than very complicated states and processes in the brain.

The Identity Theory maintains that mental processes and brain processes are not two different kinds of events but are identical. It is put forward as a scientific discovery to show the identity between the two different states and processes (mind & body). Though this theory is practiced in many ways but all versions of the theory deny the existence of mind as a separate substance claiming that mental processes, events, etc. are strictly identical with brain processes and events.
Before I go further, once again I would like to concisely put that for Descartes the mental and physical cannot be identical because they are two separate and distinct individual substances. On the other hand, the Identity theorists' stand is that though we cannot know a priori that the mental and the physical are identical yet anything which is a mental state turns out to be a brain state, and accordingly, there is only one set of substances, physical substance, and that some of the members of this set can be referred to by both physical and mental expressions. The identity claimed here is universal one and not that a particular mind-state is identical with a particular brain-state. The identity claimed here is that mind-states in general are identical with brain-states, and that the states of a mind are apprehended with those of a physical object.

The Identity Theory maintains that the mind-body problem arises due to our conceptual confusions as we learn from others the use of mental or 'subjective' terms for communicating our moods, feelings, emotions, sentiments, thoughts, images, dreams etc. among human beings. For instance, the mother tells the child 'you feel tired', 'you have a headache', etc and consequently the child learns the
phrases 'feeling tired', 'having a headache', etc. Once we have these subjective terms in our vocabulary we apply them to states or conditions to which as individual subjects, have a 'privileged access'. When I am sharing my experiences of feelings, emotions, thoughts, etc. with others, here I am not referring to my behaviour, rather I am referring to those states or processes of my direct experience which I live through, to the 'raw feels' of my awareness accessible to other persons only indirectly by inferences. On the other hand, there are some philosophers especially Ryle, Strawson, Hampshire, etc. who have persuasively maintained that one can talk about the mental life of 'persons', that is, dispositions, actions, intentions, motives, purposes etc. without being involved in the mind-body puzzle. But we hardly notice in their approach any reference to the facts and regularities of neurophysiology.

In his article, 'Mind-body, not a pseudo-problem', Herbert Feigl has tried to render an adequate account of the relation of the 'raw feels' (states or conditions where I have a 'privileged access') and other mental facts, such as intentions, thoughts, volitions, desires, etc to the corresponding neurophysiological processes. He divided the
mind-body problem into scientific and philosophical components. By the term scientific component he meant psychophysiology, an exploration of the empirically ascertainable correlations of 'raw feels', phenomenal patterns, etc. with the events and processes in the organism, especially in its central nervous system. On the other hand, the philosophical task consists in a logical and epistemological clarification of the concepts as empirically establishable or refutable, and hence as logically contingent.

For Feigl, the Identity Theory claims that "raw feels" are identical with "brain states". It is a technical expression covering impressions and images pertaining to the external senses as well as bodily expressions and feelings in a more usual sense. This identity between 'raw feels' and 'brain states' is not logically necessary one. The 'raw feels' are realities-in-themselves though we know very little about their relations to our brain states. It can also be said that Feigl is trying to strengthen an epiphenomenalist position when he says.

"But I admit that for the ordinary purpose of psychology, psychophysiology and psychiatry an epiphenomenalist position is entirely adequate, if only the
Feigl, basing his theory on Frege's distinction between sense & referent, opines that the identity between 'raw feels' and 'brain states' are logically contingent. He says:

"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 and we have come to conceive it in the modern scientific outlook".

Now the question arises: Is 'rawfeels' or consciousness or more simply awareness a brain process? The answer given to this question by U T Place is in yes. U T Place, in his article, 'Is consciousness a brain process?' writes:

"Consciousness is a process in the brain" in my view is neither self-contradictory nor self-evident.


2. Ibid, p. 41.
it is a reasonable scientific hypothesis, in the way that the statement "lightning is a notion of electric charges" is a reasonable scientific hypothesis". 3

Here saying that 'consciousness is a process in the brain does not mean whether it is reducible to or analysable into statements about brain processes. Consciousness is different from dreams, fantasies, and sensational processes in the brain. Place shows three reasons in order to support his claim that 'Consciousness is a process in the brain', however his claim is not necessarily true and is not necessarily false. The reasons are:

"(a) by the fact that you can describe your sensations and mental imagery without knowing anything about your brain processes or even that such things exist.,

(b) by the fact that the statements about one's consciousness and statements about one's brain processes are verified in entirely different ways, and

(c) by the fact that there is nothing self-contradictory about the statement 'X has a pain but there is nothing

going on in his brain”.

Place admits that there remains a number of our mental concepts, of consciousness, of sensation and mental imagery where a dispositional analysis fails and an acceptance of inner processes become unavoidable, but it does not entail dualism and at the same time cannot be dismissed on logical grounds that ‘Consciousness is a process in the brain’.

Originally, the identity theory of J J C Smart is applicable to the case of sensations only. He is influenced by the Place’s article ‘Is consciousness a brain process’. Smart’s article ‘Sensations and brain processes’ has put the Identity Theory firmly on the current philosophical map. Smart argues that each and every process reported in sensation statements are in fact processes in the brain. To put it more clearly, a sensation statement is a report of brain process. Smart writes:

“When I say that a sensation is a brain process or that lightning is an electric discharge I don’t mean just that the sensation is somehow spatially or temporally continuous with the brain process or that the

4. Ibid, p. 44.
lightning is just spatially or temporally continuous with the discharge" 5.

A person who knows nothing about neurophysiology talks about his after-images, or about his aches and pains as these sensations cannot be processes in the brain. While replying an objection that the things we are talking about when we describe our sensations cannot be processes in the brain, J J C Smart says:

"Considering lightning. Modern physical science tells us that lightning is a certain kind of electrical discharge due to ionisation of clouds of water vapour in the atmosphere. This, it is now believed, is what the true nature of lightning is. Note that there are not two things: a flash of lightning and an electrical discharge. There is one thing, a flash of lightning, which is described scientifically as an electrical discharge to the earth from a cloud of ionised water molecules. The case is not at all like that of explaining a foot print by reference to a burglar. We say that what lightning really is, what its true nature as revealed by science is, is an electrical discharge. (It is not the true nature of a fool print to be a burglar)" 6.

5. Ibid, p. 56.
It is possible that we do not know anything about our brain processes but are able to talk about our sensations just as an illiterate peasant knows nothing of electricity but can talk about lightning. At the same time, it is evident from the above fact that when we have a certain kind of sensation there is a certain kind of processes in our brain. In other words one can think or imagine anything that whatever we see around ourselves are false or are so and so and are having images, aches, pains, and so on. 'Experience' and 'brain-process' do not have the same meaning. Smart is not arguing that the after-image is a brain process but the experience of having an after-image is a brain process. In other words, experience is the introspective report of a sensation which is nothing over and above brain process.

Though Smart some how rightly attempts to show that there are no cogent philosophical argument against the thesis that sensations are identical with brain processes and hence irreducible psycho-physical laws. But Smart does not make it clear what 'sensation' is as such? Whether 'sensation' means 'brain processes' or it can be translated as 'brain processes' or it is synonym with 'brain processes'. Moreover assumption of only single kind of entity or process
takes Smart towards materialism.

For Smart the logic of the 'Mind' and 'Brain' may be different but they are exactly identical.

While claiming that sensation is a brain process, Smart instead of accepting it as a contingent identity he remarks it as a pure identity. Mind is to be identified with the stimulus aspect of the brain. Or, in other words, it can be rightly said that the presence of 'Mental states' implies presence of 'brain states' in the sense Smart puts 'lightning is an electrical discharge'. This materialistic Identity Theory of Smart is not up to the mark to completely deny dualism.

We shall now move further towards another important identity theory propounded by D M Armstrong slightly different from that of Smart's Identity Theory. Armstrong proceeds in his claim to solve the puzzle with established scientific doctrine that the nature of man, or what a man is, can be best understood in physio-chemical terms. He puts.

"I conclude that it is the scientific vision of man, and not the
philosophical or religious or artistic 
or moral vision of man, and that is 
the best clue we have to the nature 
of man. And it is rational to argue 
from the best evidence we have” .

Unlike Behaviourism, according to Armstrong mental processes 
or thoughts cannot be identified with behaviour, thoughts 
or mental processes lie behind behaviour. Behaviourism may 
be a satisfactory account of the philosophy of mind from a 
other person’s point of view. It will fail when we will 
apply behaviourism to our own case. It is possible that 
there is no behaviour but there are mental states. Mind can 
be defined as the inner cause of our behaviour and it can be 
surely identified with the states of central nervous system. 
It is possible that there is something going on in our mind 
and there is no corresponding act either in speech or 
gesture. This something ‘going on’ is the thought which the 
behaviourists wrongly identified with behaviour. In order 
to produce a satisfactory theory of mind, Armstrong suggests.

“Perhaps mind can be defined not 
as behaviour, but rather as the inner 
cause of certain behaviour. Thought 
is not speech under suitable 
circumstances, rather it is something 
within the person which in suitable 
circumstances, brings about speech.

And, in fact, I believe that this is the true account, or, at any rate, a true account, of what we mean by a mental state”.

Armstrong admits behaviourists’ stand that our notion of mind and of individual mental states are logically tied to behaviour but we should not ignore the fact that mind is something which stands behind and brings about our complex behaviour. Armstrong synthesises two statements: mind stands behind behaviour, and that the behaviourist’s dispositions, which under suitable circumstances, brings about behaviour. He puts:

“Putting these two together, we reach the conception of a mental state as a state of the person opt for producing certain ranges of behaviour. This formula: a mental state is a state of the person apt for producing certain ranges of behaviour, I believe to be a very illuminating way of looking at the concept of a mental state. I have found it very fruitful in the search for detailed logical analyses of the individual mental concepts”.

Mind as an inner principle is for bringing about certain sort of behaviour and Armstrong thinks that this description

8. Ibid, p. 72-73.
of mind fits well to explain satisfactorily mental states from both an other person point of view and as a first person account. The reason behind this is that a very sophisticated sort of behaviour differs from the behaviour that ordinary physical objects display. And therefore, it can be assumed that there must be something 'going on' behind each and every sort of behaviour. This inner state that lies behind as an inner principle (mental states) is a purely physical account of man and hence can be identified with purely physical states of the central nervous system. Mind is such sort of inner state that produces in man a capacity to bring about such and such behavioural expressions.

Taking the Identity theorist’s stand that mental states are identical to the brain processes, or that 'sensation is a brain process', or in Feigl’s terminology there is one to one ‘simultaneity - correspondence between the mental and the physical’, Jerome Shaffer points out that if mental states are identical to the physical states then presence of the one must be a necessary condition for the presence of the other. If it is so that two conceptually different processes are identical, then empirically it must be possible to show this identity by certain evidence. Shaffer believes
that it is some how reasonable to think that there are some physical events intimately connected with our particular mental states and also they have some definite location in the brain, but it will be ridiculous or unreasonable to think that our 'thoughts' are also located in the brain or somewhere in the body. He, in his "Recent work in the Mind-Body problem" argues:

"The physical events which are intimately connected with my having particular mental events have some definite location, probably in the brain .... However, so far as thoughts are concerned, it makes no sense to talk about a thought's being located in some place or places in the body".

What Jerome Shaffer meant here is that this problem of location is a genuine problem which must be solved before the identity theory can be regarded as a satisfactory theory of mind.

Norman Malcolm in his article "Scientific Materialism and the Identity Theory", talks about the particular example of

sudden thoughts, example: "Suddenly remembering an engagement would be an example of suddenly thinking of something". According to Malcolm, a sudden thought cannot be a brain process. Smart holds that mind is brain, or in other words, sensation is a brain process and this identity he uses in the sense of 'strict identity'. But it is difficult to answer the question thoughts are 'strictly identical' with certain brain processes. Brain process has spatial location and here the meaninglessness of the Identity Theory as having 'strict identity' between mental and physical can be falsified by asking the question: 'Could a brain have thoughts, illusions or pains?"  

We also come across an another form of Identity Theory known as 'disappearance form' which Richard Rorty defends in his article 'Mind-body identity, Privacy and categories'. Our ordinary thoughts and speech in contrast to the 'translation' form of our mental concepts. C V Borst, in his editorial, 'Editor's Introduction' comments:

"The distinctive feature of this

form is that no attempt is made to defend our ordinary thought and speech. On the contrary, the incompatibility of our ordinary mental concepts with scientific discoveries, and projected discoveries is stressed: sensation and sensation-talk, for example, will simply disappear from a scientifically oriented language, much as demons and demon-talk have already disappeared.\(^{12}\)

However, it appears doubtful whether the disappearance form of the identity theory where it tries to defend our ordinary mental concepts is really a identity theory or not. And that is why I have not considered this theory worth-discussing, though from another point of view it does have some truth in it.

Now, at this juncture, it can be pointed out that Identity theorists while claiming the identity between the two independently characterizable items donot deny pre-supposing of mental states. The identity between mental states and physical states are contigent, not a logical one but a factual identity. It lays too much emphasis on future findings. Identity theorists are not certain in describing

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mental states than in describing the corresponding physical states. As in the words of Armstrong:

"The concept of a mental state is the concept of that, whatever it may turn out to be, which is brought about in man by certain stimuli and which in turn brings about certain responses. What it is in its own nature is something for science to discover".

According to Identity theorists mental states are identical to "something going on, which is like what is going on when ....", of Smart and "the concept of a mental state is the concept of that, whatever it may turn out to be". Here it seems that Identity theorists are talking to one of the samething. To put in other words, the only way left for describing mental states is in a trivial or question begging way that mental states are something or other which tends to produce empirically observable bodily changes in specified physical situation. It is still a mystery that what is the exact relation between mental and physical. Moreover, it seems somehow awkward that there is one to one correspondence between mental and physical.

13. Ibid, p. 82.
Let us examine one of the arguments in favour of the Identity theory by Armstrong. He argues:

"The concept of a mental state is primarily the concept of a state of the person apt for bringing about a certain sort of behaviour" 14.

From the above argument it appears that Armstrong is against a purely physicalist theory of mind. He talks about the identity but not a necessary identity between mental and physical. He gives causal analysis of all the mental states. Mind or mental states, as an inner principle, "apt for bringing about a certain sort of behaviour" implies that the cause of our behaviour is the 'inner principle'. Now the question arises, whether this inner principle is physical, spatial, traceable from the effect (behaviour), etc? In what way, are we to accept the view that mental states are the same as physical states?

Functionalism is a theory of the nature of mind according to which mental properties are defined in terms of their typical patterns of cause and effect, including their

characteristic stimuli, their interactions with other mental states and their characteristic effects in behaviour. It is of the opinion that brain state determines a mental property provided the brain state has causal role definitive of the supervening mental property. This doctrine of functionalism is exactly opposite from panpsychism, a doctrine which regards the mind as radically non-physical and holds that traces of the mental are to be found in all matter. In short, panpsychism claims that every material thing has mental properties in addition to physical ones. I am not going to discuss this theory as its claim that ‘every material particles enjoy an inner conscious life’ is not acceptable on the ground that it puts us again on the same point from where we had started to find out a better theory of mind.

Churchland in his book "Matter and Consciousness" writes:

"According to functionalism, the essential or defining feature of any type of mental state is the set of causal relations it bears to (1) environmental effects on the body, (2) other types of mental states, and (3) bodily behaviour. Pain for example, characteristically results from some bodily damage or trauma; it causes distress,
annoyance, and practical reasoning aimed at relief; and it causes wincing, blanching, and nursing of the traumatized area. Any state that plays exactly that functional role is a pain, according to functionalism. Similarly, other types of mental states (sensations, fears, beliefs, and so on) are also defined by their unique causal roles in a complex economy of internal states mediating sensory inputs and behavioural outputs.”

Though functionalism is the heir to behaviourism but still they differ from one another. The functionalist denies the behaviourist’s account of mental states solely in terms of environmental input and behavioural output. The functionalist finds it quite impossible that a reductive definition solely in terms of publicly observable inputs and outputs is not an adequate characterisation of mental states. They argue:

“....... the adequate characteriazation of almost any mental state involves an inelivable reference to a variety of other mental states with which it is causally connected, and so a reductive definition solely in terms of publicly observable inputs and outputs is quite impossible”.

15. Ibid, p. 36.
Here, the functionalists not only reject behaviourism but also the traditional mind-body Identity Theory on the ground that the physiological constitution of each and every being is based on different chemical elements. For instance the physiological constitution of a being from another planet based on the chemical element silicon, different from ours as on the element carbon. It is also possible that the physical structure of that being from another planet and ours will be different, but it may be equally possible that his brain will well sustain a functional economy of internal states as our own mental states are defined. He also may have a pain state, but it could never be identical to a human pain state.

It should be noted here that it is not the matter, of which the creature is made, important for mentality but what is important is the internal activities which is sustained by that matter.

Now, it appears that there can be different types of physiological constitution to put together a thinking, feeling and perceiving creature. In short, there are many different kinds of physical systems. And this raises a
problem for Identity Theory. Since there are different physical systems (physiological constitution) how will it be possibly right to find out one-to-one correspondence between the mental and the physical states.

From another point of view, we see that there are possibly feelings of completely unexpressed pains arising at different occasions. For example, if I'm one is feeling a twinge of pain, we ask how you feel, he'll reply 'I feel a twinge of pain'. The fact behind the 'a twinge of pain' for the behaviourists is that certain hypothetical sentences become true of them at the time and that the pain itself merely consists in the disposition to make such a reply. But this account is not correct because the pain is a positive state which causes the disposition and not that (as the behaviourists claim) the disposition being the pain. On the other hand, the behaviourists claim that acquisition of any disposition to behave is a change which takes place in the brain. We don't know in detail what this change is. Another difficulty is what is it about the glass which makes it brittle.

The behaviourists claim to the statement 'It must be
time to get up' what a person thinks to himself is a thought unexpressed in either speech or action. In fact, the person did not do anything while having this thought as there was no observable behaviour took place.

But ordinarily we believe that any hypothetical sentence (if asked... then they will reply ...) involves an act of thinking which explains the disposition. In short, thinking/thought explains disposition and not that thinking itself being the disposition as maintained by the behaviourists. It is somehow incorrect to say that when a person is thinking about something and no observable behaviour takes place implies that there is nothing really happens. Generally, when a person feels a pain or screams out of it, we believe that the pain itself is not the behaviour rather it is the cause of the behaviour. Normally, ordinarily, we also have in our mind that conscious states are causes of our behaviour or behavioural dispositions, and therefore, conscious states cannot be said to be identical with behaviour or behavioural disposition. And even if the behaviourists construe that all those unexpressed pains and acts of thinking are identified with their behaviour or disposition, but also with the private states (inner principle) which causes the
behaviour, is still not satisfactory as the aim here too is reductive. Here too all the words referring to mental states are analysed into purely behavioural terms.

And this is the point where functionalism differs from behaviourism and the identity theory (whether it is type-identity theory or token-identity theory). [Type-Identity theory states that mental events are identical with physical ones or all physical states of particular type are mental states of particular type. For instance, a thought about weather is a particular state of the brain. Token-identity theory, on the other hand, is slightly different from the type-identity theory, which states that thoughts of the same type need not all be brain states of the same type. For instance, my thought about something today need not be of the same type when I had thought that thought yesterday, and thus to have thought of the same type does not involve the same brain state].

Functionalism, a different approach to the mind-body problem, concentrates much on the functional role of the mental states mediating between a specified input and output. Here it can be said that functionalism studies mental states
in terms of their normal causal role as well as their normal behavioural effects. Here the concentration is made on input (injury), output (pain behaviour) and the relation between inner states (or with private states). Here it is to be understood that "the normal function of pain is to be the causal intermediary between a specified bodily cause and a specified sort of behavioural effect" 17.

It may be said that when rise of a particular thing/or behaviour is seen, it involves various factors. Physical events in terms of bodily movement and characteristic cause of it involves other mental states such as thoughts and desires. Unlike behaviourism, functionalism admits that mental activity is usually linked with behavioural disposition but also that mental events are, in fact, causes of behaviour.

To clearly understood the functionalists' approach to the mind-body problem, let me examine the relationship of a computer with its programs. A computer is constituted of hardware and software. The hardware implies of what the computer is actually made out of, and software, on the

17. Ibid, p. 113.
other hand, implies the system of operations which is seen being carried out by the hardware. The software is a complicated system of instructions to the computer hardware. The hardware carries out this complicated system of instructions in different ways and as a result, the same result is achieved. Here we can say that in order to achieve the same result both the hardware and the software are functionally involved.

The causal interaction of many different states taking place at some distance and by the impact of the physical environment on the body result in human behaviour. It can be rightly said that while describing the function or the normal causes each and every state employed or involved here is of equal importance. In short, a function can be described in conjunction with other states (both physical-mental). And unlike, behaviourism, the functionalism can provide us satisfying solution to the problem of other minds as through the knowledge of correct input and output. We have been able to suppose that there really exists causal intermediary (causal link) between the input-injury and output-pain.
In his book 'Introducing persons', Peter Carruthers remarks:

"If 'Pain' means 'state which is normally caused by tissue damage and which normally causes a disposition to pain behaviour', then we can surely know that other people have pains. But because of the occurrence of the term 'normally' in the definition, there can be no valid deduction from observations of tissue damage and ensuing pain-behaviour to the existence of pain: for it is always possible that this is one of the unusual cases. So we can still explain how it was that we became ensnared by the problem of other minds in the first place" 18.

Moreover, all our utterances are not mere behavioural manifestations of the corresponding states unlike the behaviourists view that every utterance is a piece of behaviour or disposition to such behaviour. In no way it seems reasonable that I am to reason from my utterance to my pain that 'I am in pain' as far as my own conscious states are concerned. We donot infer knowledge of our own minds, they are immediately known to us. And not that observing my own physical circumstances and behaviour I come to know that I myself is in pain.

Now, what appears here is that functionalists have succeeded somehow to make us understand the functional role of mental states by concentrating its approach on inputs, outputs and the relation between inner states. But it has failed to deal with the phenomenon of consciousness. Take the example of a computer or a machine. A machine or a computer can have internal states with functional properties but a machine or a computer can never be said to be conscious the way we human beings are 19. The functionalist’s approach to the mind/body problem ignores an adequate account of conscious experience and sensations.

In his book "Matter and Consciousness", Paul M Churchland writes:

"By attempting to make its relational properties the definitive feature of any mental state, functionalism ignores the 'inner' or qualitative nature of our mental states. But their qualitative nature is the essential feature of a great many types of mental state (pain, sensations of color, of temperature, of pitch and so on), runs the objection, and functionalism is therefore false" 20.

19. Ibid.
Man is not similar to machine. A machine just manipulates symbols but never understands what they refer to. Functionalism ignores the conscious states like what is it like to be happy, what is it like to be in pain, what is it like to be having pleasure, what is it like to be forming a hypothesis, and so on. This is what is the mostly posed objection against functionalism. While perceiving a particular thing, it may be the case that the same thing may appear to us differently. It may be the case that a highly sophisticated computer can play the functional roles of pain, pleasure, and sensation-of-color but would it have intrinsic qualia as ours?

One point can be noted here that functionalism too maintains some type of reductive approach to the mind-body problem. The versions of functionalism, it can be said, suggest reductions of mental states to physical states, despite the fact that they have nowhere mentioned that mental states do not exit as private, states. The definition of mental states purely in terms of causal relations, which cannot account for the qualitative feel of mental states is the central problem with functionalism. The functionalist, because of their preference in the learning of materialism
cannot help themselves to become dualists, and therefore recognize the deficiencies of straightforward identity theory. One can well say that while perceiving a particular thing, say a tomato, when two persons, say John and David, are in identical functional states, but still it may be the case that these two persons are seeing the same thing differently because of the spectrum inversion, i.e. one seeing the tomato being red, and the other might be seeing it as being blue. It is possible for a computer or a certain number of people to functionally organize and work like a human brain. But this organization can never become a subject possessing consciousness. This phenomenon of consciousness, which is supposed to be the essence of mind, is lacking in the functionalists doctrine. And therefore, this doctrine fails to adequately deal with the mental states.