

## HOW IS MIND RELATED TO BODY?

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In ordinary language, even in literature and poetry, nobody minds if the words "mind" and "body" are used interchangeably. The relationship between the mind and the body does not pose a problem for the layman. But in scientific thinking one has to draw a hard and fast line between the two. The brain has anatomical location, has a weight (approximately 50 ounces in a grown up man), and controls and regulates various bodily actions and physiological functions in a number of ways, whereas mind has no such characteristics.

Plato (427-327 B.C) was the first thinker to have drawn a line of cleavage between the body and the mind or what he called "psyche". He thought that the psyche exists on its own account. The body is merely its temporary residence. It exists before the emergence of the body and continues to exist even after the dissolution of physical organs. Plato's grand idealism was built on this very distinction. It was further worked out by St Augustine in the Middle Ages. But it was not until Descartes (1596-1650) that this problem was taken up seriously.

Descartes thought that mind and body were two substances. By substance he meant "that which is in itself and depends upon nothing other than itself in order to exist". Substance, thus defined was a self-subsistent reality. He said that all things and objects that have "extension" constitute one substance -- body. All those events and

processes that have the property of "thought" fall under the pervue of mind. Hence the universe we live in is divided into two diametrically opposed substances, mind and body, neither of which could be reduced to, or derived from, the other. Now the problem arises. How do the two influence each other? There is a rigid mechanism and determinism in body whereas mind enjoys absolute freedom. The laws applicable to the realm of body do not hold good in the realm of mind. The bullet of a hunter can injure a bird, but can't injure a desire or an idea. Nevertheless the two realms, "thought" and "extension" interact with each other in a mysterious way. A heavy stomach can cause a nightmare or an annoyed mood. On the other hand, the mere idea of a rosy future generates a wave of relaxation in a nervously tense body. If mind and body are two diametrically opposed substances, then how do they interact? How can an incorporeal substance, mind, influence a corporeal substance, body, and be influenced by it, in turn.?

The brain, though organic, is a material thing like other material things of the world, its constituents are derived from known elements and chemicals. More or less, it can be analysed, understood and interpreted in materialistic terms. It occupies the highest and central position in the body. Our knowledge of the external world and of our own body essentially depends upon the brain's ability to decode the messages which it receives by receptors through impulses travelling over nerve fibres.

In order to know various activities of the brain, we draw a distinction between the central part of the nervous system (brain and the spinal cord) and the peripheral part of the nervous system (the nerve fibers connecting with receptors and effectors). This could be explained by the analogy of telephone. The central nervous system is like the

central exchange where the calls are switched about and interconnected, while the peripheral nervous system is analogous to the wire leading to the telephones where calls originate and where they are received. (Hilgard, Ernest, 1957). The telephone calls are the messages which arise from the sensory stimuli light waves, air vibrations, mechanical pressures and chemical properties of the environment. The brain identifies and classifies these messages and also reacts to them accordingly.

Anatomically, the brain comprises two cerebral hemispheres that have a convoluted appearance like a walnut and a tube of nerve cells and tissues (mid-brain and hind-brain) that is connected to cerebral hemisphere, the cerebellum and the spinal cord. The higher an animal in the scale of evolution, the more cerebral hemispheres and the cerebellum dominate the mid brain and hind brain. A comparison between the animal brain and the human brain reveals that some parts of human brain are common to those of the animal brain, but during the course of evolution certain absolutely new and unique organic developments have taken place in the human brain by virtue of which man has attained superiority to lower animals.

Certain zones of the brain are known to have specific functions. The frontal lobes area is regarded as the seat of memory, association of ideas, abstract ideas, concepts and judgments. Midway across the upper part of the brain lie the main areas of sensation and motoractivity. If either of these areas is damaged, the opposite side of the body gets affected. But one thing should be remembered. We should not think that there is a strict and exact correspondence between the sensory - motor areas of the brain and their respective functions. Even if sensory area is considerably damaged, the corresponding feelings of heat, cold, touch,

pain, etc, continue to have some degree of these sensations. Similarly, the damage to motor area does not necessitate the total loss of voluntary movements:

"It can be shown that some areas of the cortex, when stimulated electrically, will produce known and specifiable kinds of motor or sensory responses. When tumours place pressure on these areas, there are disturbances in the responses. when through disease or injury these areas are destroyed, the same functions are altered or obliterated, yet we would be making an error in logic if we assumed that these functions are controlled by these areas alone. Even though an area is essential to a function it may not be sufficient to control that function. (Hilgard, 1975).

The psychologists tell us that the human brain is very complex and, despite tremendous discoveries about it, its operations are little understood. There are many areas of the brain whose nature, purpose and functions are yet unknown. The ultimate constituents of the brain are neurons - the cell bodies having dendrites and axons. We are told that the brain consists of about ten thousand million cells, yet it gives us a unified and centrally controlled experience. Our divisions and demarcations of various sensory or motor areas are not absolute. We have yet to go a long way to understand as to what happens when we learn or think or store and recall memories.

After this short description of the structure and functions of the brain, we now turn our attention to the nature of mind. The study of mind and mental phenomena was badly neglected in the past due to several reasons. It is only recently that thinkers have started these phenomena seriously. One of the reasons why this study started so late is that this field is very elusive and it is not easy to apply

scientific method to it with the same precision with which it is applied to other areas of study. Social relations, group activities and mass movements are mental phenomena considered in relation to societies and collectivities. Likewise, the field of study has been neglected over centuries in the past. Eventually, psychology and sociology, as against astronomy, physics, mathematics, chemistry, etc, started their career very late. Another vitiating factor in the study of mind is that psychology, which is considered to be the science of psyche or mind, has given us conflicting definitions of mind. Some regard mind as a form of observable behaviour (Behaviourism), some regard it as a vast glacier whose major part is hidden from our eyes (Psychoanalysis), and still others consider it to be a nonmaterial entity having its own peculiar nature to which scientific method cannot be applied (Parapsychology).

The greatest difficulty encountered in studying mind is that no degree of objectivity could be maintained in it. "Science tends to ignore the unique and the non-repeatable and to deal with an order of nature from which many of man's distinctly human characteristics have been excluded. When we try to isolate 'mind' often it is gone and we are left with something else. In this respect, mind may be like the electron, which is disturbed when it is observed, the physicist cannot discover both its location and velocity" (Titus, 1964). If mind cannot be studied in an objective way, how can we study it? The impossibility of studying it objectively has led some thinkers to deny its reality. This is, of course, no solution. The reality of mind cannot be denied because it reveals itself in our immediate experience. On the other hand if objective study and scientific method to study mind are dispensed with, then the door will be opened for all sorts of mythical, superstitious and non-verifiable

explanations to rush in. It is here that one realises the baffling nature of the problem.

There are a number of theories regarding the nature and reality of mind but we cannot undertake an exposition and examination of such theories here. For our present purpose, we accept the Cartesian definition of mind that it is a thinking but non-extended substance. Now we briefly consider a few theories of mind-body relationship.

Interactionism: this theory is attributed to Descartes who thought that mind and body are two independent substances, yet they influence each other, i.e. bodily events can cause mental events and vice versa. In human personality, both substances combine in a mysterious way. Certain thoughts can cause the heart to pound, and flashes of light can produce after images. Now if the interactionist position is accepted the question arises what is the point of contact between the mind and the body? Descartes replied that it was the pineal gland in the brain where the interaction takes place. But it is quite evident that it was not at all a satisfactory answer. To which substance does the pineal gland belong? Obviously it cannot belong to mind since it is situated in the brain. If it is part of the body, then how can it serve as a point of contact for the mind? Later on, Descartes, in a letter to Queen Elizabeth, himself confessed that he had failed to solve the problem.

Psycho-physical Parallelism: According to this theory, mind and body are two series of events that do not influence each other. An event in the series of body, say, the prick of a pin, corresponds to an event in the series of mind - pain. What is most astonishing in this theory is that it denies any casual connection between the two. This is usually explained on the analogy of two clocks which are absolutely synchronised. The tick of one clock corresponds to the tick of

the other, without there being any causal connection between them.

One event necessarily accompanies the other and "however inevitable the accompaniment, it is not an effective one; mind and body are two closed circuits, with no influence upon each other. As someone has suggested, they are like two partners in a perpetual ghostly minuet that never ends in an embrace" (Mead, Hunter, 1962). The classic formulation of this theory was given by Spinoza (1632-77), It is also know as the Double Aspect Theory.

Occasionalism: Arnold Geulinx (1624-1669), in order to improve upon the position of interactionism, put forward the theory of Occasionalism. According to this theory, God, Who is the creator of all things, has so perfectly wound up the "two clocks" (i.e. mind and body) that one provides an occasion for the other to happen. But even this theory has failed to remove the defects of parallelism. Russell writes about it in his History of Western Philosophy (P.545): "There are of course serious difficulties in this theory. In the first place, it was very odd. In the second place, since the physical series was rigidly determined by natural laws, the mental series, which ran parallel to it, must be equally deterministic. If the theory was valid, there should be a sort of possible dictionary in which each cerebral occurrence would be translated into the corresponding mental occurrence. An ideal calculator could calculate the cerebral occurrence by laws of dynamics, and infer the concomitant mental occurrence by means of the 'dictionary'. Even, without the dictionary the calculator could infer words and actions, since these are bodily movements".

Epiphenomenalism and Psychic Monism: In the history of thought we find certain theories which have tried to solve the problem in another way. the fundamental

procedure of such theories is to eliminate one of the antagonistic parties and assign reality and primacy to the other. These are known as Epiphenomenalism and Psychic Monism. According to Epiphenomenalism, the mind does not exist on its own account as an independent substance. It is just an outgrowth of material processes. "The one real substance is matter. The stream of consciousness is a phenomenon accompanying certain neurological changes. "What we called mind is a glow or shadow that appears under certain (material) conditions." According to this theory, all ideas, desires, emotions, etc. are the effects of cerebral changes. Psychic Monism on the contrary, regards mind as the fundamental reality and matter as merely its shadow. More or less, it becomes a sort of idealism in which body is considered to be an externalisation of the mind.

Mind as Emergent: A popular solution to the problem is provided by the theory of Emergent Evolution. In his famous book Emergent Evolution, C.Lloyd Morgan has tried to establish that life is an elaborate "regrouping of physiochemical elements". Morgan thought that there are various levels of the process of evolution in which mind and matter are just two levels or stages; there is no essential dualism between the two. Mind, however, is a distinct and higher level where certain new qualities emerge that cannot be described in terms of the categories of the previous levels. The process of evolution is like a ladder having various levels which are mutually related and integrated. Each level is distinct and offers a new set of qualities. Mind, though related to the previous levels of life and matter, is a unique development. In it, certain qualities have emerged which cannot be explained in materialistic terms. Bergson and Iqbal were very much influenced by this theory.



Ghost in the Machine: Gilbert Ryle, the author of *Concept of Mind*, says that the mind-body problem is a pseudo-problem. He thinks that wrong use of language has given rise to this problem. In order to clarify his viewpoint, he gives the example of the inhabitants of a far-flung area who have never seen a steam engine. In their day to day life, they know only that type of carts which are driven by some animal. When steam engine first arrived in their village, they took it for a cart of some kind. But there was no horse to drive it. Then they thought the horse must be in the engine. But after searching every nook and corner of the engine, they could not find a horse. Then they said that there must be, an invisible ghost of the horse in the machine who was responsible for driving the engine. Their simple minds were not able to form the concept of an automobile. In the like manner, Ryle say, mind is a concept born of the common use of language. For him mind - body problem is not a philosophical problem at all.

Apart from the theories we have discussed above, there are several theories that deal with the mind - body problem from their peculiar points of view, e.g., Russell's neutral monism, parapsychology, neutral psychology, cybernetics, etc. This problem remains a source of trouble and discomfort not only to philosophers but also to physiologists, psychologists, linguists, etc.

Finally, it should be noted that this problem is not merely an academic problem. It has its bearing on the ways of our life. If you accept Plato's interpretation of mind (psyche), then you will try to master your passions and instincts and give them in the subordination of reason in order to live an ethical life. But if, on the contrary, you subscribe to what Freud has said about id, ego, and super-ego, you will become a pessimist and determinist. "Ideas

have consequences for our lives and society, it is important for us to discover whether Plato's or Freud's views of mind are correct ones. If we think that Freud has the correct views, we may expect less of man in the way of self-discipline and self control than if we accept Plato's interpretation" (Titus, 1964).