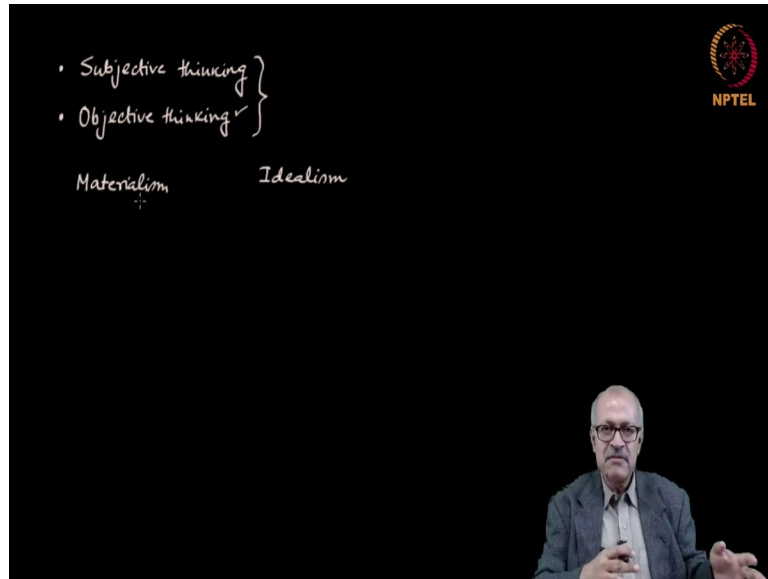


**Research Methodology**  
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**Lecture - 04**  
**Idealism Versus Materialism**

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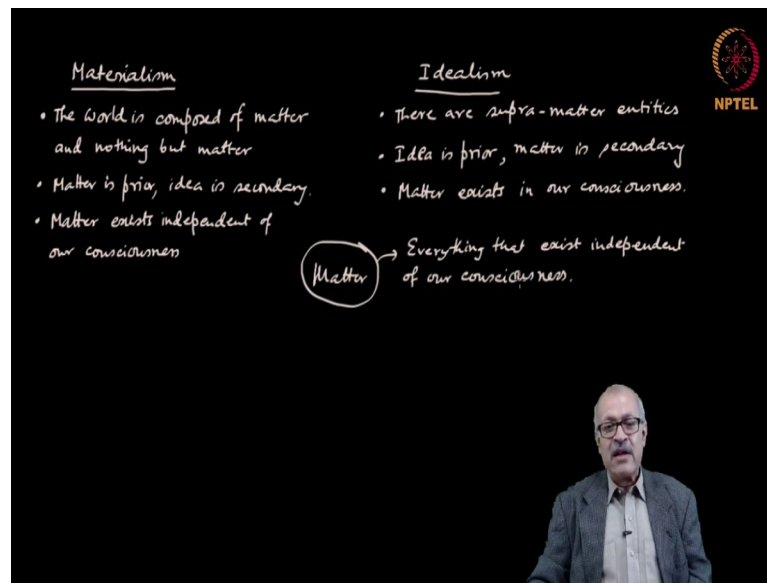


Now, in philosophy you will find that there are various schools of thought, various philosophical currents, various philosophers, their ideas fighting with each other. All that has happened, and I would not try to burden you with all those details. But I can tell you that all those different schools of thoughts in philosophy can be broadly subdivided into two types of philosophical currents, one is called materialism another is called idealism.

So, there are two types of philosophical thought: materialism and idealism. Materialists say that this world is composed of matter and there is nothing but matter in this material world. It is only matter and nothing but matter. While idealist say that there are things that are supra-matter, which are not really matter. And therefore, there are things that cannot be probed with the methods of science: ghosts, soul and things like that. They say that these things are also there.

According to the idealists, there are things other than matter in this world, while materialism says that there is matter and nothing but matter.

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Let me write the positions of materialism and idealism. First, materialism says that the world is composed of matter, and nothing but matter. Idealism says there are supra matter entities like ghosts, soul and things like that. Both materialism and idealism recognize the existence and importance of ideas, but idealism says that idea is prior matter is secondary, while materialism says matter is prior idea is secondary.

Let us understand the logic. We think, and through that we produce ideas. Materialists say that the ideas are born in our brains and the brain is a material entity. Therefore, idea is a product of matter. And, how do ideas get created? Because, as individuals, we communicate with other individuals, we interact with nature, we interact with society and through that our consciousness is formed and our ideas are formed.

So, (a) ideas are products of matter, our brain, and (b) they are produced by the interaction of the brain which is matter with other things around us which are also matter, material entities. And therefore, materialists say that matter is prior, primary, and idea is secondary.

Now, what is the logic that idealists forward in supporting the idea that idea is prior? Well there are various shades of idealist thinking. Some people said that idea is prior matter is secondary. Some people said that matter does not exist; all matter that we see around us are illusion, Maya. That is also another shade of idealism: matter does not exist.

For example, let me quote from a famous idealist Bishop Buckley, the way he pictured this issue. He said that suppose there is an apple on a table. How do I know there is an apple? Because I can see it, I can smell it, I can touch it, feel it and through our five senses, I get to know that there is an apple.

And then he says, what has actually happened? What has really happened is that I have got some sensations coming from that apple: the sight sensation, the feeling sensation, the smell sensation—all these sensations we have got. And our mind has coordinated and put together all those sensations to give it a name: the apple. So, he says, where does the apple reside? In our mind. The apple is a construct of the human mind.

We have actually received certain different senses: the sense of touch, the sense of vision, the sense of smell, and through that we have got something and then we have given it a name. So, the apple exists in our mind, there is no reason to believe that there is really a corporeally existing apple. That was his line of logic. So, he says that idea is primary. We have got an idea of an apple. So, that is what an apple is.

The idealist says that, if I see a red cloth, why do I say it is red? Because from it we have got a sensation, a visual sensation, and we have given it the name 'red'. There is nothing like an inherent redness of that cloth. We have perceived it as red and so, according to our perception it has a certain character. So, where did the idea come from? Our brain, i.e., our mind, so idea is prior.

But the materialist would say the cloth is red because it absorbs a certain frequency of light from the incident light. That is why. That is independent of who looks at it. It still absorbs the same frequency. Therefore, it is not dependent on our ideas.

And that brings me to the main point main point of difference between these two. Materialism says that matter exists *independent of* our consciousness and idealism says matter exists *in* our consciousness.

Bishop Buckley would say that the apple exists in our consciousness while a materialist would say that the apple exists independent of whether we look at it or not, whether we know that it exists or not. It still exists. It is there. In contrast, Bishop Buckley would say, or idealists in general would say that the apple's existence is actually in our mind. We perceive it, that is why it exists. If you do not perceive it; it does not.

So, this is the essential difference between these two schools of thought. And I can tell you that all the different shades of philosophy that you study in a normal philosophy textbook will fall into this or that of these two major currents in philosophy.

At this stage I will need to clarify one thing. In common parlance the word materialism is often used in a derogatory sense. In the sense that, if somebody eats, drinks, and be merry, that kind of lifestyle, then he or she is materialistic. This is not really materialism; materialism is a very serious school of philosophical thought.

And so, do not subscribe to that sort of derogatory notion of the word ‘materialism’. Materialists actually are those who believe that the material world, the sun, the moon, the earth and the things around us, all these—in the whole universe there is nothing but these material objects. And these exist independent of our consciousness. Whether, we know them or not, whether we perceive them or not, whether we understand them or not, still they exist. The task of science is to try to know them.

At this stage I think I should clarify the meaning of the word ‘matter’. Because the meaning of the word matter in philosophy differs a bit from what we normally understand from usual physics textbooks. In understanding the concept of matter let us start from how we generalize. For example, we have mangoes, bananas, pears, cherry, grapes—all these are different things. They have entirely different shapes, sizes, flavors, taste entirely different, but still they have some commonness.

It is a character of the human mind that we can abstract out that commonness out of these completely different things. The commonness is that they are all fruits. So, the word fruit, the character of a fruit, is obtained by a process of abstraction that only human mind can do and through that process of abstraction we conclude that these belong to a class called fruits.

Notice that “give me a fruit” does not really make sense because the person who I am addressing will either give me a banana or an apple, or a grape, or a pear or something like that—some particular thing. But still we do not have any difficulty in conceiving what a fruit is. So, even though a fruit by itself does not exist, the concept is very clear to us. And similarly we abstract out such general properties, some commonness, from various things.

For example, a cat, a leopard, a giraffe, a rhinoceros, a rat, a hippopotamus—all these are entirely different looking things with different characters, but we sort of abstract out the commonness in them and then we call all of them mammals. So, the word mammal is actually a construction of the human mind. We have abstracted out the commonness in them and given it a name: ‘mammal’. So, the word ‘fruit’, the word ‘mammal’—these are actually philosophical categories, but we have no difficulty in understanding what they are.

In a similar vein, the word matter has to be understood in the sense that there are innumerable different things in this material world: there are the galaxies, the planets, the tigers, the humans, air, radiation all these completely different things are there. Right? But they have one common property, the property that they exist independent of our consciousness. So that is the concept of matter. Matter is everything that exists independent of our consciousness.

You would notice that the textbooks of physics often say ‘matter and radiation’. Matter they designate as something that has mass, and radiation does not have mass. And therefore, matter and radiation, as if radiation is not matter. But philosophically, radiation is also matter. It is matter because it is something that exists independent of our consciousness.

You might ask: how do we know that something exists? We know the table exists because I can see the table. We know that the apple exists because we can see, touch, feel, and taste the apple. So, these things influence our senses. These things have the ability to influence our senses. And so, we know that these are pieces of matter because they exist independent of our consciousness, but they have the ability to influence our senses.

You might ask, what about x-ray? We do not see x-ray, we do not feel or perceive x-ray. No, we can, because we can produce certain gadgets with which we can detect x-rays. What do we mean by detecting x-rays? The existence of x-rays is detected by that instrument and it renders it in a form which can influence our senses. It gives a pointer reading or it displays how much is the intensity of the x-ray. Whatever maybe the form, ultimately it is something that converts what we our senses cannot see into something that our senses can perceive.

Otherwise, our retina can detect only a narrow range of electromagnetic radiation. Anything below or above that range we cannot really see. But we can make gadgets that enable us to see that, and in that sense that radiation has an ability to influence our senses.

The microorganisms, the viruses and the bacteria—we do not see them because our eyes are unable to see them, but we can see them with the aid of a microscope. So, the microscope is sort of an extension of our sense organs which allow us to see such microorganisms. But the microorganisms are also pieces of matter because they have the ability to influence our senses. They are amenable to our senses.

Similarly, the distant stars and galaxies that we cannot see with the naked eye become visible with the aid of telescopes. And the telescope, therefore, is an extension of our sense organs by which we can see them, detect them, perceive them. But the galaxy or the star, which is at a great distance, has the ability of influencing our senses.

And so, you might argue that there may be galaxies or stars, or even what are today called as dark matter which are not yet perceived. Those galaxies that are so far away that we have not yet seen them, we have not yet been able to build telescopes strong enough to see them. Do they exist? Well that is why I said that the any piece of matter are those which have the ability to influence our senses. Whether we can detect them or not is secondary, but they have the ability of influencing our senses. And therefore, we try to build bigger and bigger telescopes so that we can detect them.

Gravitational waves were not detected only a few years back, but still we tried to build gravitational wave detectors. Why? Because theory predicted that it should be there and if it is there it is also matter and therefore, it is in theory amenable to our senses.

So, this is what the concept of matter is. And since we know matter has the ability of influencing our senses, therefore they are by definition detectable.

The proposition was made that there may be a particle called neutrino which is so minute and so non-interactive with other things that billions of neutrinos are passing through me right now and I am not feeling them. Because they are passing through me as if I am transparent. But still scientists had the confidence that, if we can build the right apparatus, then we will be able to detect neutrinos. Why?

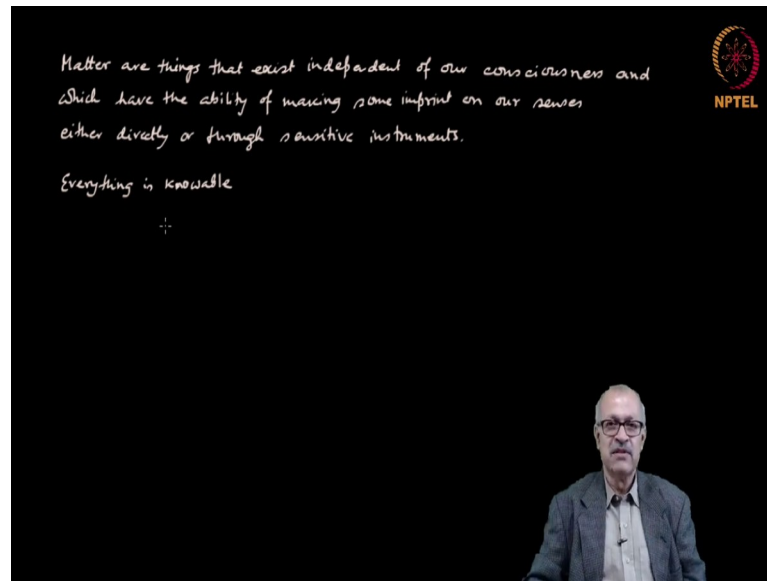
Because if it is a piece of matter, it has the inherent ability to influence our senses. It is only a question of building the right gadgets, right instrument, apparatus, to detect them. Detection ultimately means transforming or translating that into something that we can see, that we can detect—some pointer reading, some click that you can hear.

Suppose a radioactive nucleus is disintegrating and radiating alpha, beta and gamma rays. Normally, I would not be able to detect them. But with the proper gadget, the Geiger counter, there will be a click and the click will tell me that a particular atom has disintegrated. So, the Geiger counter then is the extension of our sense organs. But the atom that is disintegrating, the event of disintegration of an atom and whatever it emits, these are all pieces of matter. Because these can be detected, the Geiger counter renders them into a form that we can sense. So, in that sense, they have an ability of influencing our senses.

We have this confidence that everything in this material world is knowable. Science rests on the position of materialism. Science believes that everything in the material world are composed of matter and matter is something that is amenable to our senses. And therefore, they are subject of scientific investigation. They can be detected, we can find out their properties and we can theorize regarding their properties and character. This is possible because science rests on the position of materialism.

So, there are two major classes of philosophy and I am making the point that science rests on the position of materialism, not idealism. Now, in our society both the schools of thought are prevalent. Therefore, scientific as well as unscientific thinking are prevalent. Through the process of learning science we have to internalize this idea—the position of materialism that the whole world is composed of matter and there is nothing supra matter in this material world.

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So, let me write: matter are things that exist independent of our consciousness and which have the ability of making some imprint on our senses either directly or through sensitive instruments. Well, because of this assertion whenever some theory is developed we have the confidence that we can test it.

For example, when the theory of Higgs boson was developed, we knew that it would be very difficult to detect such an elusive particle. It took more than 50 years to do so. But there was always a confidence among scientists that ultimately if it exists then it must be detectable. That confidence comes from this philosophical position and that is why we would say everything is knowable; everything in the material world is knowable. There may be things that are unknown, but there is nothing that is unknowable. There are many things we do not yet know, but everything is knowable.

So we have this confidence that the world is composed of matter and there is nothing supra-matter in this material world. Because we have this confidence that everything is knowable, because we have this confidence that matter is amenable to our senses either directly or to sensitive instruments, because of these philosophical groundings you notice that whenever mankind is faced with a question like the origin of life, like the origin of the solar system, we try to find out the answer to those questions. But we never invoke the idea of a divine intervention, or that somebody willed it, that is why it happened. We never say that. Science never says that. Why? Because, science always believes that



every event that happens, happens due to some material processes and phenomena. Therefore, if the solar system has originated, I have to find the origin in some material processes and phenomena. If life has originated on this planet and finally evolved into human beings, then I have to find out some kind of a material process through which this could be possible.

So, that has been the pursuit of science, because of this philosophical position of materialism. Had science based itself on idealism, it would be a completely different story. But science does not. That is why science always looks for some material process and phenomena in answering all the questions that it has.

So, these were the two major schools of thought that I wanted to expose in today's class, let us end here.