2. What is Cause?

- Introduction
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- The Notion of cause in Western philosophy
- The Scientific perspective

Introduction

On reading the title of this Chapter you may say, "this is something that everyone knows, then what is the reason behind asking this question?" This question is asked because we use many words in our day-to-day conversations, but if we are asked what is exactly the concept that the word denotes, we get baffled and start thinking about it. From whatever you have studied in Philosophy by now you must have realized that in this subject, questions are raised about the concepts that seem to be easy to use or understand. The horizon of our knowledge broadens as we go deeper into these questions. 'Cause' is one such concept. This concept is as much important in epistemology and ethics as in metaphysics. Isn't this a sufficient reason to study this concept and the meaning embedded in it?

Concept of Cause

Curiosity is a beautiful gift human beings have received from nature. Our curiosity is not limited to the things that are necessary for survival or to the things that are useful. It extends beyond that. It doesn't end merely by thinking about what is beneficial or harmful, what is useful or useless for us. It is from such curiosity that the question arises what is there in the universe? Not only this, but we also ask why everything is the way it is? Why does change occur in it? We ask such questions due to a natural curiosity. Once a question arises, how can our reason be at rest unless it finds the answers? With this quest begins the journey, for finding out the reasons behind the nature of objects and the causes behind the events in nature, in society and in the mind!

It is not only the philosophers who are confronted with these questions, you too are confronted with these questions. For example, at home when some device of regular use, like radio or television, does not work we immediately ask "why?" When at times it suddenly rains and we wonder "Why it must have rained?" When a healthy person falls sick we wonder "What must be the reason?". All these are examples of unexpected events. However, even when things happen as expected, the concept of 'cause' is always with us knowingly or unknowingly. For example, when a friend who does not attend classes regularly faces difficulty during the examination and is about to cry, you say, 'this is the reason why I would ask you to attend classes.' When you have high temperature after getting drenched in the rain your mother says 'the cause of your fever is nothing else but your wandering in rain.' Whatever 'happens' to us is due to some reason. Similarly, there is always some reason behind the things that we do consciously. Our intentions, desires, motivations etc. are the reasons behind our behaviour and actions.

Let's talk!

Discuss in groups the difference between reasons behind the action / behaviour of an individual and scientific reasons behind events.

The search for causes is very important for science too. Explanation and prediction of events are considered to be major tasks

of science. In order to carry out both of these tasks, science explores the cause - effect relationships. Causes and effects are related to change. That reason due to which change occurs is the cause and what is generated from that change is known as an effect or a consequence. The task of science is to know what is the effect of a particular event and the regularity with which it occurs. It is the function of scientific laws to explain the regular correlation that is found between events. This correlation is often of the nature of cause-effect relationship. Do you to remember the law 'all metals expand when heated'? This law states that because of the cause 'heat' the effect 'expansion of metal' takes place. On the basis of cause-effect relationship natural sciences explain the occurrences in the nature; similarly, the social sciences explain social events on the basis of cause-effect relations of social behaviour. The same law that is used to give explanation, is used for making predictions. For example, the same law that explains the expansion of the mercury in the thermometer, also predicts that if the person has fever the level of mercury will rise up.

Like science, religion too speaks about cause. Some religions look for the cause of the existence of the universe. They also explore the causes behind the nature of the universe. Some religions also provide causal explanations of the incidences of human life that are not easily explainable. Concepts like merit-demerit, karma and its consequences are its indicators. The belief that good deeds will lead to heaven whereas bad deeds will lead to hell, is based on the belief that relation between the action and its fruits / consequences is a causal one.

Let's discover!

Find out the examples of incidents, where a cause-effect relation seems to be existing, but actually it is not there. Present them in the class.

In short, this notion of causation has pervaded in many areas of our lives and knowledge. It is not surprising that it is important in Philosophy. It should be noted here that Philosophy is interested in understanding the concept of 'cause' and the principles associated with it. It is not the function of Philosophy to discover the causes underlying existence. All such attempts made by Philosophy in ancient period were theoretical in nature. The major questions philosophers studied were as follows : What is the exact nature of cause-effect relationship? Are effect and cause completely different from one-another? Is causal relation applicable to every event? Is this relation necessary? Let's study these questions and the major responses given to them in Philosophy.

While studying this, one must keep in mind the period in which these various responses are given. Why so? It is because the questions which were asked in the most initial period of philosophical contemplation and the answers they received are as if the foundation of the tower of knowledge on the top of which we stand today. We have ascended to the place where we have reached today, by gradually following the sequence of questions and answers; giving rise in their turn to newer questions and answers. Have you ever seen the Dahi Handi? In it, we see that the hands of the individuals standing at the lowest layer of the human pyramid surely cannot reach the pot at the top, but it is only because of them that the player at the top can break the pot. Got it?

The notion of 'cause' in Indian Philosophy

Background

Let us first understand the major theories of causation in Indian Philosophy and the context in which they have been discussed. Although these relations have been discussed in both Indian and Western traditions, their cultural backgrounds are different. As we

have seen in the previous year, Philosophy and culture keep influencing each-other. From this point of view, it seems that being aware of the cultural background helps us understand the Philosophy that has developed in a particular culture in a better manner.

One of the key-features of Indian Philosophy is that this Philosophy is related to the issues we face in our actual lives. As the study of this Philosophy satisfies intellectual inquisitiveness, it also teaches us how to live. This does not mean that it provides specific solutions to the specific practical problems that arise in our day-to-day life. Rather it develops a broader perspective towards life. This life-perspective is primarily concerned with what ought to be the goals of human life. Later, we will study the concept of 'Purushartha' of Indian tradition which talks about the goals of human life.

Almost all the Indian schools of Philosophy have contemplated over the problem of suffering. No one desires sorrow. But, understanding that it is an inseparable part of one's life, these schools have tried to find the cause of this suffering. At the same time, they have also suggested the ways to get rid of this suffering permanently. All the major schools of Indian Philosophy except materialist Charvakas, accept the notion of re-birth. These schools also believe that birth inevitably gives rise to suffering. That is why they propound liberation from the cycle of re-birth as the highest goal of life. This liberation has been named variously by different schools as moksha, mukti, kaivalya, apvarga, nirvana etc. However, all these schools agree upon one point that, it is one's ignorance regarding one's own self and the world that is the root cause of being bound in the sorrowful cycle of re-birth. Obviously, these schools have propounded that one must eliminate ignorance and know the true nature of one's self and the world and accordingly live life in a proper way. The cause-effect relationship has been discussed while studying the existence of universe and the things existing in it, their nature and their inter-relations.

In this context, the views of Charvaka, Jain, Sankhya and Advaita Vedanta schools regarding the nature of ultimate reality that we studied in the previous lesson must be kept in mind. Though, the nature of the ultimate reality, the notion of 'Self' and the cause-effect relationship, have been discussed separately in different chapters for convenience, we must not forget that, in fact, these three are inter-connected issues in Metaphysics. We must take into account the inte-rrelationship among Metaphysics, epistemology and ethics.The congnitive, moral and artistic capabalities of human being are a part of their nature. The relationship between man and the universe is at least to some extent determined on the basis of these capabalities. Though it may appear that we are discussing different issues in different chapters of this book we need to bear keep in mind that there is a common thread which holds them together. Let us now turn towards the study of theories of causation in Indian tradition.

In the Indian tradition, material cause and efficient cause are considered to be the two main types of causes. We have already seen that the concept of 'cause' is related to change. That in which change occurs, is known as material cause. The effect or consequence emerges from the material cause. This creation requires motion. That which causes this momentum, is known as the efficient cause. Wood is the material cause of a cricket bat and the craftsman / carpenter who shapes the wood into a bat is the efficient cause. That which produces the effect from the material cause is the efficient cause. It is generally believed that both these types are required for the occurrence of the effect, that is, the consequence.



Let us do!

Make posters of various objects explaining their material cause and efficient cause.

However, there seems to be a disagreement among Indian schools of philosophy regarding what is their relative role and to what extent in the production of the effect. These differences are in relation to two questions. (1) Does the effect exist in the material cause in some or the other form prior to the process of change? And (2) is the effect independent and distinct from the cause? Based on the responses given to these questions, the two main theories of causation were propounded, namely – 'satkaryavada' and 'asatkaryavada'. Samkhya Darshana has accepted satkaryavada. Nyaya Darshana advocates asatkaryavada.

Satkaryavada

The term 'Sat' indicates existence. The theory according to which the effect pre-exists in its material cause before its explicit manifestation is called 'satkaryavada'. Sankhyas have presented many influential arguments in support of this theory. If we assume that the effect does not pre-exist in the cause and is subsequently generated, then we will have to accept that being or existence originates from non-being or non-existence. However, that is not possible. Creation of anything is not possible out of Nothing. Effect can only be generated through some processes, with the help of efficient cause. This means it is already implicit in the material cause in the form of a latent potentiality. Therefore, one is unable to distinguish it from the material cause. If a particular effect is to be produced, then only that material cause should be chosen in which the effect is latently present. If, we add culture to water it cannot produce curd because water lacks that potentiality. Culture is the efficient cause due to which the potentiality of the milk to produce curd is actualized.

Sankhya's theory of satkaryavada is also known as Parinamvada; in the process of creation of effect it is the cause itself that actually transform into effect. Advaita Vedanta darshana also accepts satkaryavada, but their theory is known as 'Vivartavada'. According to Advaita Vedanta, the transformation of the cause into effect is merely an illusion, a Maya. The rope that appears / looks like a snake is not a snake; but it appears to be a snake. Similarly, the world does not originate from Brahman. It is only the Brahman which exists while the world only appears to exist.

If, there was no such relation between potentiality and actuality then any effect could have been produced from any material cause. But, that doesn't actually happen. If, somebody moves the hand in the air and shows us either kumkum or any precious thing we would say that it is just a trick. To believe that this is not a trick is a superstition.

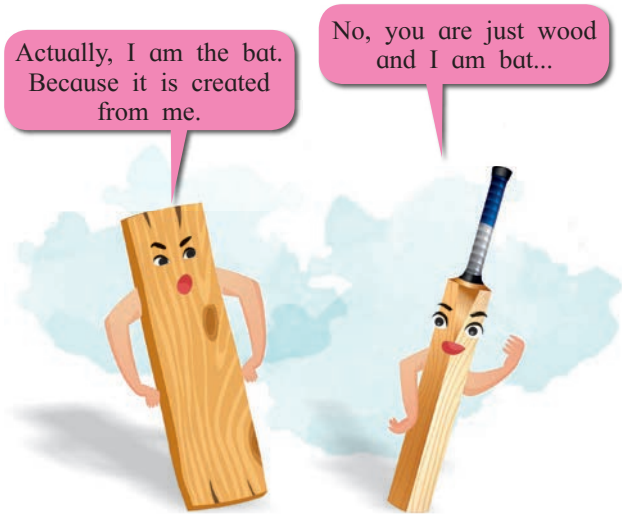
Effect cannot be produced without a material cause. Moreover there must be specific potentialities inherent in that material cause. The same truth is expressed in the proverb, 'As you sow, so shall you reap'. If you want mangoes, then, it is of no use sowing seeds of sapota in the soil. This means that cause and effect are qualitatively not different, they are the latent and manifested states of one and the same thing. The effect is the implicit power in the cause in a non-manifested form and is manifested under appropriate circumstances. When, we switch on the tubelight the electric energy that exists in a non-manifested form in the lamp gets manifested in the form of light. This happens because it is already there. The bulb or tubelight which has lost its potentiality, does not lit even if we press the connected switch.

Asadkarnat upadangrahanat sarvasambhavabhaavat. Shaktasya shakyakaranat, karan bhavachha satkaryam.

Sankhyakarika – 9

Asatkaryavada

Asatkaryavada of Nyaya darshana presents a view opposite to Sankhya view. The effect does not exist prior to the process of change; that means it is non-existent in the cause. It does not exist in its material cause prior to its production. The Naiyayikas think that the effect is newly produced in the process of change and does not exist in the material cause prior to its coming into being. They have also presented their arguments to prove this. If, the effect pre-exists in the material cause then there would be no need of efficient cause. Milk will change into curd automatically without culture and wood will change into a bat without the artisan. But, that never happens.



It is only through the collaboration of the efficient cause that the effect is produced from the material cause. If, the effect pre-exists in the cause then it does not make any sense to say that an effect is created/produced. To say that the effect is produced is to say, that which did not exist before, has come into existence. Effect is different from the cause. Its properties, shape or form are different from the properties, shape or form of the cause. The objectives to be attained through the cause and the effect are different. Their functions are also different. One does not have same kind of pleasure by observing the stone, that one obtains by observing a sculpture created by a sculptor. One cannot hit fours and sixes with a crooked piece of wood. Apart from this, it seems that various things can be made out of the same material cause. Many objects can be made out of wood.

The properties, appearance and purpose of all these objects are different from each-other. Naiyayikas propound that there is no point in saying that all these effects pre-exist in the material cause. The existence of the effect gets initiated with the process of creation. Hence, this view is known as 'Arambhavada'.



Let's do!

Discuss the difference between Parinamvada and Arambhavada in two groups and present the important points of the discussion in the class in the form of debate.

Sankhya's satkaryavada is an important part of their metaphysics. All the things that exist in the world are made of material substance i.e. Prakriti. Because, the qualities of sattva, rajas and tamas are the constituents of prakriti, we find a combination of all the three in various proportions in all the things. "Not in a pail unless in the well." According to this proverb, if these qualities were not present in the prakriti itself then they would not have existed in the objects created from prakriti. Sankhya believes that prakriti is the first cause of the world. Prakriti is the material cause of the world and the purusha which triggers it's creation is the efficient cause.

According to Nyaya metaphysics, most of the objects in the world are divisible. They can be divided into parts. These objects are

effects and they originate from some cause. They are formed from the atoms of material substance. However, material substances are not sufficient for the creation of these objects. God, who knows their nature completely creates these objects and the order in the universe. To put it in the asatkaryavada terminology, the atoms of earth, water, fire and air are the material causes and God is the efficient cause of the world. It is not possible to create the world merely from the atoms without the intelligence of God.

As we have seen before, contemplation over the cause-effect relationship is an important part of the philosophical thinking that aims at attaining liberation through knowledge of the true nature of the world and oneself.

The Notion of 'Cause' in Western philosophy

In the initial period of Western Philosophy the contemplation about reality came to be known as 'Cosmology'. An important question related to monism was, how did everything originate from a single fundamental principle? The basic elements of the ultimate reality, the changes that occur in them and the motion required for these changes were the three issues addressed in this period. The pre-Socratic philosophy after Parmenides and Heraclitus reflected over the question, whether these basic elements of the universe are fundamentally dynamic in nature or they receive motion from some external source? As we have noted earlier, the atoms of the four basic elements get motion from two forces viz., attraction and repulsion. Empedocles argued that atoms are continuously composed and decomposed due to this motion. According to Democritus, atoms are inherently dynamic. While moving in an empty space they get bound together due to their different shapes and again move away from each-other because of the motion. Atomists believed that the process of integration and disintegration continues in a purposeless and mechanical manner.

In the later period, philosophers were inclined to believe that the process of change is not mechanical. According to Plato's theory of two worlds, nothing changes in the world of forms. The problem of change was of little importance to Plato, who believed that the world of Forms is the highest reality. In fact, the main reason for not believing that the particulars are real was that they change and perish. According to Plato, the forms in the intelligible world are the ideal or perfect forms of the particulars. He was of the opinion that every particular makes effort to reach this ideal. The main motivation behind the change is the desire to reach the ideal. Since, he did not consider the world of particulars to be ultimately real, he did not seem to have felt the need to think deeply about the changes that occur in that world.

Aristotle

Aristotle, had to consider the phenomenon of change, because he belived that the world of experience is the only world that exists. Aristotle accepts the teleological perspective according to which the changes that occur in nature have some purpose and end. Change is the characteristic of everything that exists in this world. He knew that motion was required for change. That is why in his metaphysics, the consideration of change and motion is important. His views on causation have been presented in this context. When an object undergoes change, its state before change is different from the one after the change. Aristotle classifies change into four types on the basis of this difference. These four types are : qualitative, quantitative, spatial and substantial.

When a mango ripens, its color changes from green to orange-yellow, its sour taste decreases as sweetness increases and it also becomes soft, all these are qualitative changes. A small raw mango changes into a

large mango, this is a quantitative change or when from a single banyan tree several aerial roots form, this is also a quantitative change. The mango which is on the tree falls on the ground, then goes into a box of mangoes and finally into someone's house, this is the change that occurs in the place of the mango. A mango is formed from the flowers and it gets destroyed after be eaten, these changes are substantial changes. The first three types of change occur in the substance, but, the last change is of the nature of the creation or destruction of the substance. Hopefully, you have not forgotten that substance is the most significant, fundamental aspect or category of everything that exists, right? In the case of first three changes, the substance in which they occur remains constant. However, this is not so in the case of a substantial change.



Whatever may be the type of change, it necessarily occurs due to some reason or the other. In the Greek language of Aristotelian period the term 'cause' was used in a much wider sense. Whichever factors were responsible for the existence of an object, all of them were referred to as 'causes'. Here the term responsible is not used in a moral or legal sense. The elements responsible for the existence of an object or an event are the ones without which the object or an event cannot exist. If a book in the library is found torn, the authorities look for the person responsible for tearing the book intentionally or unintentionally. This is the sense in which the word 'responsible' is generally used. But, basically in order to be torn, a book must first exist. This book is created from something and it has some particular shape. It is created by someone with some purpose. That means, the paper, the shape in which it is created, the person who gives that shape and the purpose for which it is made, are the four factors responsible for the existence of the book. That is, these are the causes for its existence.

Aristotle's fourfold theory of causation classifies cause into four types. These four types are as follows :

(1) Material cause : The substance in which change occurs and an object is created is a material cause. E.g. stone is a material cause of a sculpture.

(2) Formal cause : The idea or image in the mind which determines the shape of object, that idea or image is the formal cause. E.g. the idea in the mind of the sculptor of a sculpture.

(3) Efficient cause : The force or the individual which gives a specific shape to a material cause is an efficient cause. E.g. sculptor.

(4) Final cause : The purpose with which an object is created is the final cause. E.g. the purpose behind the creation of a sculpture.



Let's write!

Write the different meanings of the term 'cause' with examples.

Aristotle's explanation is easily applicable to the man-made objects, but while explaining natural objects and the changes that occur in them a few other concepts need to be considered. Aristotle believes that all living beings, from plants to human beings, have soul. This spirit or 'psyche' in Greek language is basically the principle of motion. Living beings can move by themselves since this

principle is inherent in their nature. Inanimate objects cannot move without external force. For movement they need external energy. Living things do not require such energy. There is an operative force in their body due to which growth in their body takes place. Under conducive conditions, it is because of this force that the seed germinates. The germ transforms into a sapling, a sapling transforms into a tree. The tree grows flowers and fruits and again seeds are reproduced. These types of changes occurring in living beings are caused by this internal force. Aristotle uses the Greek word 'entelechy' for this force.

Whether a being is living or non-living it cannot change without motion. Non-living things are moved by some external object. If, this object is also inanimate, then, there has to be a third object which moves it. That is how the inquiry with respect to the source of motion, takes us more and more backwards in the process. If, this inquiry is endless, then it would never be complete. Logically, this is called a state of 'infinite regress'. In order to avoid the infinite regress Aristotle proposes the idea of God as an 'Unmoved mover'. According to this idea, there is not even an iota of matter in God. He is a pure form and there are no dormant potentialities in Him. All His powers exist in actuality. So, He doesn't need to make any movement or perform any action. He himself is 'non-moving', that is, not performing any action. But because of this nature of God, the world created from material substance and form gets attracted and is drawn towards Him. In this way God becomes the 'Mover' even if He Himself is Unmoved. However, Aristotle's God is not the creator of the world. Like God, the world exists eternally, but it gets its motion from God.

Modern Philosophy

Mediaeval Philosophy was greatly influenced by Aristotle's cosmology. However, after the emergence of modern science, Aristotle's view regarding the origin of the universe took a back seat. Science underlined the fact that mere speculation, even when it is logically consistent is not enough for the understanding of the universe. It must have a strong basis of experience too. Empiricism was introduced in modern philosophy, keeping this fact in mind. Empiricism and rationalism are the two main trends of epistemology. We will study them later. In this lesson, let us understand the views of the empiricist philosopher David Hume regarding the cause-effect relationship.

Aristotle's views about world were mainly derived from his speculations. It did not have a strong base of experience. His perspective of the world was teleological. The purpose or ultimate cause behind every change was important to him. Similarly, he considered the efficient cause to be important. His analysis of causation was very useful with respect to the man-made objects. However, it was not possible to apply the concepts of final cause and efficient cause to explain the changes occurring in the nature. In modern times, the idea that a change in nature is caused by 'someone' (efficient cause), for 'something' (final cause) was not acceptable.

Science emerged in the period of enlightenment. Modern science looks at the world as a giant machine. This perspective believes that events in nature occur mechanically, according to the laws of nature. Mere logically consistent thinking is not enough to understand the nature of the world. In modern times, Aristotle's teleological view was replaced by a mechanical view of science. The leap taken by science during this period had a profound impact on modern epistemology later. You will be introduced to this epistemology. Of the two trends of epistemology mentioned above rationalism is influenced by the method of mathematics, while empiricism is influenced by the method of science. One of the most important

philosophers who advocated empiricism is David Hume. His views on causation are very noteworthy.

David Hume

Hume believes that sense-experience is the primary source of knowledge. In our mind there are various types of ideas. We cannot gain knowledge from all of them. Hume asserts that only the ideas acquired through sense-experience are useful in order to gain knowledge of the world. We get deceived when we consider the ideas which are not based on experience to be true and try to produce knowledge from them. Hume strongly asserts that even if these ideas are very influential and are well received by the community, such ideas should not be accepted. Hume offered an experience based critical analysis of the understanding of causation that was prevalent before him.

As per the common understanding of that period, 'cause' is that which has the potentiality to produce effect. Since, the effect emerges from this potentiality, effect cannot be more powerful than the cause. This view was also accepted by science. A rationalist philosopher like Descartes was also influenced by this view. Another related view was that there is a necessary relationship between cause and effect. That is, if the cause is present, then the effect must be generated. It is true that there cannot be an effect without a cause, but it is also true that there cannot be a cause without an effect. Rationalists had accepted the necessity of the cause-effect relationship. By analyzing the cause-effect relationship Hume completely rejects this belief that the relationship is a necessary one.

In his analysis, Hume states what does it exactly mean, to say that an event is a cause of another event. While asserting 'A' as the cause of 'B' following things are implied :

(1) 'A' and 'B' are close to each-other in terms of space and time.

(2) 'A' and 'B' are bound in a sequence. 'A' always exists prior to 'B'.

(3) There is a regular association or correlation between 'A' and 'B'. 'A' and 'B' are constantly together.

(4) 'A' and 'B' are necessarily related.

Hume analyses all these four factors related to our understanding of causal relationships, by using the empirical method. He concludes that the first three ideas of proximity, sequentiality, regular association are created on the basis of our sense-experience. But, we never experience the idea of necessary connection. Following the empiricists standpoint according to which, that which cannot be experienced does not exist, Hume asserts that a cause-effect relation is not a necessary one.

Let's explain Hume's view with the help of an example. We experience that if a candle is kept in the scorching heat of the sun for a long time, the wax melts. We explain this experience as : the 'scorching heat' is the cause of the 'melting of the wax'. The wax does not melt unless the sunlight and the wax come in contact with each-other. This experience reinforces the idea that cause and effect are closely related to each-other. It never so happens that the wax melts first and then the candle is kept in the sunlight, there is never a reversal of this sequence. As per the notion of sequentiality, the candle melts only after it is kept in the sunlight. Regardless of the number of times we place a candle in the sunlight, it melts every time, hence, it shows that the idea of regular association is correct one. But, while seeing the candle melt in the heat, we never experience the necessity. Even if this instance is repeated, necessity is not experienced.

Let's think!

Think of the examples that suggest that there is no necessary relationship between cause and effect. Discuss these examples with your classmate. Present selected examples in the class.

From such observations, Hume concludes that although the concept of necessity is deeply rooted in our minds, it has no base in reality. Now, the question arises, how then, is this idea so widely accepted? Hume answers this question from a psychological standpoint. According to him, many times we see the regular association of cause and effect. Many a times we also experience that the effect never occurs without the cause. Due to the experience of regular association between cause and effect, we start believing that there is a necessary relation between these two. But, this is not the fact. If, any relationship is necessary, then its denial leads to contradiction. It is contradictory to say that a figure is triangular, however, it does not have three sides but only two. Saying that a candle did not melt in the Sun can be false, but not contradictory. It is possible for us to imagine a candle that may not melt even in the heat. But can you think of a triangle with two sides?

Hume's critical analysis of causality created an upheaval in the fields of both – Philosophy and Science. All the philosophers after Hume had to take into account his analysis of causal relationship and induction. The attempts made to counter his views were helpful for the development of Philosophy, especially of epistemology and methodology.

The Scientific Perspective

By now, we have learnt how the cause-effect relationship was studied by various traditions and by various thinkers in the history of philosophy. It is worth-noting that all these explanations were fundamentally based on thought-experiments. In the journey of philosophy, when the investigators started using instruments alongwith thought experiments for exploring the objective reality, a separate journey of 'science' began. Now, let us see how Science looks at this topic of causation.

We have seen that Science studies the laws of nature. These are the laws that are universal and valid for all time. How did man come to know these laws? Human beings used observations and experimentations and understood the patterns in the results that they obtained through these. They found that there was a consistency in the observations made in similar circumstances. That is how a law was comprehended. A law is proved only when there are no observations contrary to it. For example, the law of conservation of energy and matter.

The important point in this process is that all this happens with reference to the objective reality. In the context of causal relationship, Science can explain why something happens in a particular way only when it falls within the range of scientific laws, i.e., within the range of objective reality. With the help of laws of science, one can explain why one cannot produce a ring from the air or why gold cannot be doubled just by sitting in one place. But the method of science that is the method of knowing the objective reality cannot explain everything that falls within the range of the subjective and intersubjective reality. For example, many things in the field of art are subjective and intersubjective. They cannot be explained with the method of exploring the objective reality. A particular art-object may be beautiful for someone and may not be so for someone else. The question whether the art-object is actually beautiful or not is irrelevant in this context.

Let's do!

Discuss in groups those examples of subjective and intersubjective reality that cannot be explained with the method of exploring objective reality. Understand the difficulties that arise in giving an objective explanation of these examples.

When, we look at a happening as an effect, the immediate question that comes to our mind is, 'what must be its cause?' For example, when there are unseasonal rains, we ask, 'why did it rain?' Suppose, if it is explained that it rained due to a low pressure system created somewhere far in the ocean, we would get the answer. We at least feel we have found the answer. The framework in which the earlier philosophers discussed the issue, whether the effect pre-exists or not in the cause is not applicable to modern science. Science uses the terminology of probability while understanding something as a cause. Using the same terminology, it also answers the question whether the Sun will rise tomorrow or not (which basically means, will the earth rotate or not). Actually, in this particular instance the probability is so high that instead of probability it appears to be a matter of certainty. There are clouds but the probability of whether it will rain or not is far less than the probability of sunrise. Because, there are many other factors that can affect the rainfall.

We may ask who made the laws of nature. In this regard, Science believes that there is no objective evidence to suppose that someone made them intentionally. Let's take an example. Imagine, we are walking along a riverside. We see the open bank of the river. The picture of the bank looks like this. At the bottom there are large stones, above them there are small stones and at the top even smaller stones and soft soil. Someone amongst us may ask, 'who must have arranged it so systematically?' We say that it need not be arranged by someone. It is due to the geographical processes operating in accordance with the laws of nature. This arrangment may not remain as it is forever. It will keep changing continuously. This change does not occur arbitrarily. Even for these changes, the of nature are responsible. And the same thing is applicable to the whole universe.

Now, you must have understood the relations and differences between philosophical understanding and the contemporary scientific understanding of the cause-effect relationship.



Riverside - There is no need of anyone to create the layered structure from large stones to soft soil. This happens due to geological reasons responsible to it.

Glossary

Purushartha – पुरुषार्थ
Moksha – मोक्ष
Kaivaly – कैवल्य
Apvarga – अपवर्ग
Nirvana – निर्वाण
Satkaryavada – सत्कार्यवाद
Parinamvada – परिणामवाद
Vivartavada – विवर्तवाद
Asatkaryavada – असत्कार्यवाद
Arambhavada – आरंभवाद

EXERCISES

Q.1 Take the odd word out.

(1) Earth, Water, God, Fire.

(2) Material cause, Formal cause, Final cause, Thought cause.

(3) Observation, Change, Experiment, Conclusion.

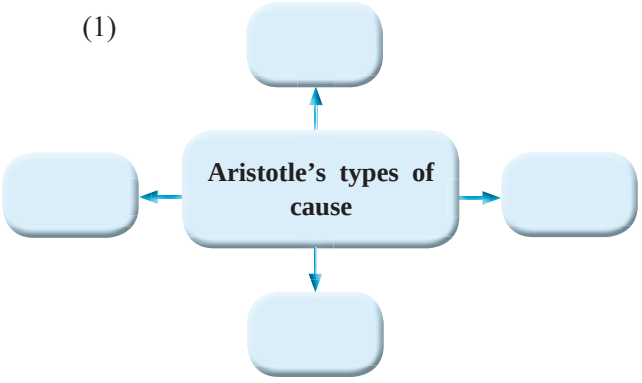
Q.2 Distinguish between the following.

(1) Satkaryavada and Asatkaryavada.

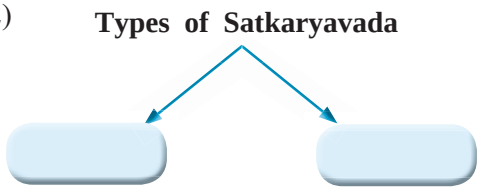
(2) Cause and Effect.

Q.3 Complete the concept-map/flow-chart.

(1)



(2)



Q.4 Write a short note on the following.

(1) 'Entelechy'.

(2) Aristotle's four-fold causation theory.

(3) Satkaryavada.

Q.5 Write the answers in 20-25 words.

(1) What are the two important questions asked in Indian tradition regarding causation?

(2) Why is Sankhya's 'Satkaryavada' called 'Parinamvada'?

(3) Why is Advaita Vedanta's 'Satkaryavada' called 'Vivartavada'?

(4) What is 'Aarambhavada'?

Q.6 State with reason whether the following statements are true or false.

(1) Aristotle explained the idea of God in terms of 'Unmoved mover'.

(2) There is a relation between potentiality and actuality.

Q.7 Explain the following statements with examples.

(1) Not in a pail unless in the well.

(2) According to Hume, causal relation is not a necessary relation.

Q.8 What is Asatkaryavada? Explain with example.

Q.9 Explain the four types of classification of change given by Aristotle.

Q.10 Explain in detail David Hume's notion of causation.

Q.11 Write a dialogue on the following.

Discussion among the players or audiance about the causes behind losing the match.

Activity

Make a picture-story of a chain of causes and effect of different things or events. Present these stories in an exhibition.

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