CHAPTER - II

THE CONCEPT OF CAUSALITY AND RATIONALISM

2.1 The Early Rationalist Approach

There is no doubt that the concept of causality has been the main locus of dispute between the two traditions of Rationalism and Empericism. What is worthnoticing here is that the rationalist variety of thinking has laid a great emphasis generally on the view that the concept of causality entails a necessary connection between the two events of cause and effect. In this connection, the rationalist philosophers have brought in the concept of the "Divine Will" or "Causa Sui" in their interpretations of the concept of causality, and they have made this idea a source of all causal necessities. Now the word "Causa Sui" is a Latin word which means 'cause of itself or himself' and, hence, the expression in this sense applies only to God. Since God cannot be produced by or be dependent upon anything else, the philosophers of the rationalist tradition insist that God is the cause of everything. On this version, the entire world is thought of well ordered by the divine or metaphysical necessity. The immediate implication of this position is that nothing in this world as conceived by the rationalists is contingent but a part of necessary relation as a whole. The philosophers who are in favor of this view are called speculative philosophers or speculative metaphysicians. This is because their sole interest lies in giving only a rational explanation of this universe by reducing the multiplicity to the unity ; the explanation of things and beings in terms of causality in this sense signifies the explanation of the existence and nature of finite objects only in terms of one ultimate causal factor. Socrates and Plato have occupied the most significant place among the early rationalist thinkers because they are responsible primarily for the beginning of the rationalist movement in the history of western philosophy. It is needless to say that the concept of causality has received a very important shape in their hands such that their views on it have influenced positively the subsequent thinkers belonging to the rationalist tradition.

The philosophy of Socrates marks the beginning of the rationalist trend of

thought in the western philosophical tradition. However, Socratic statement about causation has appeared to be obscure and inaccurate. The concept of causality which Plato has developed here should really be taken as the starting point of the rationalist movement in this connection. The Socratic teacing, as it is evident from the context of the earliest dialogues of Plato, is essentially ethical, i.e., he is found to be concerned with the ethical questions like "What is courage ?" , "What is beauty?", and so on. Such questions are formulated schematically thus : "What is X?" , and the answer to such questions leads to the Socrates' theory of Forms as causes. According to Socrates, the questions of the "What is X?" type can be answered by referring to the concept of X or the definition of X. In this sense, 'This X is X because it "partakes" of the nature of Form or Concept 'Xness'. So empirical objects are beautiful because they partake of the nature of the Form "Beauty". Socrates seems to hold that Forms are present, though partially, in the empirical objects. They are changeless entities that underlie all the changes in the sensible objects. In this sense, the Forms are the real causes in the world. The concept of causality can be made clear by refering to the Socratic position in the Phaedo. He is concerned here with the teleogical causation explained in terms of purpose or ends. It is the causation which is found when a man is said to pursue some end because it is good, and , hence, he is not concerned with the mechanical causation which is found in the case where one billiard ball hits another. This shows that Socrates thinks that the only satisfying form of causation found in the activity of the mind is the Form of good, i.e., the Form which is the culminating point of all our human activities. Hence, the immediate consequence is that the Form of good in this sense is a teleological cause which has been invested with "force" or "power" such that it brings about effectuation or causation. Thus, the sole pattern of the teleological explanation of cause found in the Phaedo is that which is exemplified in the purposeful agency of a mind. But this Socratic position in this connection fares no better because he is in puzzle in finding out this cause. Vlastos says, "Socrates makes it abundantly clear that he is still, at the time of speaking, "deprived" of the teleological aitia he had been looking for."[1] The implication of this remark is that if socrates had thought of the concept as the teleological cause, then he would not have said that he is still "deprived" of teleological aitia. Here we should not carry on this problem farther because of the lack

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1. Vlastos : Platonic Studies, pp. 87-88.

of evidences in his support. Zeller says, "Socrates himself left no writings behind him, so that those of his pupils, Plato and Xenphon, are the only trustworthy sources from which we can expect to derive any information about his philosophic views."[2] In addition to these sources, some writers like Huby refers to "The Clouds", a comedy by Aristophanes, as also an important evidence for information. However, it is an undeniable fact that Plato has tried to carry out Socrates' mission in his own way and developed the idea of his master in his dialogues. So we can at best conclude here that the dialogues themselves have been purely Platonic doctrines where the historical Socrates cannot be imagined. That is why, it is not always possible to distinguish sharply between the contributions of Socrates and those of Plato. Huby says, " It is probable that Plato's earliest dialogues give a fair impression of Socrates' methods and the subjects he choose to discuss, though it is not likely that the dialogues themselves are reports of actual conversations".[3] It seems, however, to be legitimate to hold that an account of Plato's view is also expected to exhibit fairly Socrates' ideas as well. Stace says, "All we can say is that they contain the gist and substance of the philosophy of Socrates."[4] Consequently, we shall be concerned here with Plato's view of the concept of causality.

According to Plato, Forms or Ideas are regarded as the "Cause" of sensible objects, and hence the relationship between the Forms and the sensible things is very important to understand the notion of causation in Platos' philosophical system. Since Plato's exposition of the concept of causality shows that the Form is the cause of sensible objects, his view of causation is, thus, based directly on his theory of Forms. However, it cannot be said that the theory of Forms is entirely due to Plato because it is already available in some form or other in the thoughts of his predecessors. It is clear in this regard that Plato has been influenced by Parmenides on the one hand and by Heraclitus on the other. He has been influenced by Parmenides by the concept of Forms which are uncreated, eternal and unchangeable entities supplied by the reason alone. On the other hand, Plato shows respect to Heraclitus' view of change that the sensible world that we know with the help of our five senses is changeable or becoming, i.e., the sensible objects are in a constant flux. According to Plato, if the sensible objects are always changeable, then the non-sensible objects alone are unchangeable. The non-

2. Zeller : *Outlines of the History of Greek Philosophjy*, p. 99.
3. Huby in *A Critical History of Western Philosophy*, p. 15.
4. Stace : *Critical History of Greek Philosophy*, p. 141.

sensible objects are "essences" which he calls Forms. Mention may be made here to Socrates' view, and we may claim that a concept, i.e., an adequate definition of a word gives an exact account of the essential nature of an object to which it refers. So the Forms here stand for the 'essence' of the thing. Commenting on Socrates' view of the purpose of a definition, Huby says, "By "essence" seems to be meant something which is peculiarly central to the thing, stated so that we have in a nutshell enough information to feel that how at least we really know what it is. Once we have this information, not only can we recognise the presence of the thing defined, but we can also deduce from the definition a great deal more information about it."[5] In this connection, it is equally important to know that Plato has used the words 'ideas' or 'Forms' to mean these unchanging and eternal objects existing apart from this world of sensible particulars. Now a confusion may arise regarding Plato's use of the words 'Ideas' or 'Forms' because he has used the words 'eidos' and 'idea' more or less interchangeably. It should be noted here that the word "eidos" means either a distinct class of objects or the peculiar 'structure' which constitutes a set of objects into a distinct kind. If so, the sense of the word 'eidos'. Crombie has tried to remove this confusion and says, "I shall use the word 'Form' as a standard translation of *eidos* and *idea*, though other words such as 'nature' , 'kind', 'property', and 'universal' will (following Plato's own looseness of terminology) be used as well."[6]

It should be mentioned here that though Plato's theory of Forms is well known to us, yet the clear picture of the theory is not available easily. Huby says, "This "theory" is not set out in full anywhere in the dialogues, and on many points the dialogues are uninformative or inconsistent. But the theory may be reconstructed in its essentials without much difficulty."[7] There is a line of thought which has, as summed up by Huby, led Plato to believe in the Forms, and this has been stated as follows: " 1. In geometry we become familiar with the notion of perfect triangles and circles, and we distinguish these from the diagram we draw on paper and the actual triangular or circular shapes of some tables, postage - stamps, or shawls. The diagrams and the tables are only approximately triangular, and if we measure them carefully enough we shall find out

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5. Huby in *A Critical History of Western Philosophy,* p. 16.
6. Crombie ; *An Examination of Plato's Doctrines,* p.49
7. Huby in *A Critical History of Western Philosophy,* p. 18.

their flaws. The triangles that are the suibjects of our theorems, however, are necessarily perfect. If there exist then they must be very different from the things we see and touch. And to Plato it would have seemed absurd to suggest, as later philosophers might, that things about which we can reason so clearly and surely did not exist."[8] "2. Particulars may be imperfect in other ways. Even the most beautiful woman or statue is not flawless, and we can conceive of something more beautiful still. We can, Plato believed, think of absolute beauty, but this too cannot exist in the world of sense."[9] "3. Finally, there is the puzzling fact that particulars are able to be the subject of contrary predicates. Peter, for instance, may be tall when compared with James, but short by the side of John. But all the time he is one man Peter. But if you can say two contrary things of the same man at the same time, it looks as if he is somehow imperfect and not fully real. That which was trruely tall would surely never in any way be short."[10] On the basis of such arguments Plato comes to believe in the existence of Forms and claims that we can understand the meaning of the words 'perfect beauty', 'perfect equality', etc., although they are not found in the world of sensible objects. According to Plato, when we see such imperfect examples, they make us remind of their perfect originals, i.e., their eternal and perfect Forms. There is another essential characteristic of Plato's Form in so far as he has assigned to them an objective reality, and as such the Forms are considered to be the metaphysical substances. Stace says, "His theory of Ideas is the theory of the objectivity of the concepts. That the concept is not merely an idea in the mind, but something which has a reality of its own, outside and independent of the mind - this is the essence of the philosophy of Plato."[11] Socrates has regarded the concepts merely as a rule of thought or an idea in the mind, i.e., the regulative principle by virtue of which we compare any act, for example, with this concept, viz, the concepts of virtue (i.e. the definition of virtue) in order to ascertain whether it is virtuous or not. But Plato has transformed such regulative ideas into metaphysical realities. Now the question is : How does Plato arrive at this doctrine ? Plato like Socrates is in favour of the view that our knowledge is the knowledge of concepts and our knowledge is true only if our concept corresponds to or is a copy of something that exists outside i.e., an objective reality. According to him, if the concept does not correspond to its external objective reality it

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8. Huby in *A Critical History of Western Philosophy,*
9. Ibid, p. 18.
10. Ibid, p. 18.
11. Stace : *A Critical History of Greek Philosophy,* p. 141.

will be a mere construction of imagination'. Therefore, there must be objective reality outside my mind for our knowledge of concepts or ideas to be true. Plato holds that there exists such a thing as the absolute *Beauty* or the one beauty itself, for example, and it is that reality of which the concept in my mind is a copy or to which my concept corresponds. Consequently, Plato is going farther than Socrates by pointing out that the concept is not merely an idea residing in our mind but a metaphjysical entity or reality existing outside and independent of our mind. Commenting on Aristotle's view, Gulley says, "Aristotle was right to emphasise Socrates' originality in this respect. He recognised in the problems of general definition raised by Socrates an important influence in the development of Plato's metaphysical theory of Forms."[12]

The forms or Ideas as thus developed by Plato are regarded as the "ground" or "reason" in terms of which individual particulars can be explained. Stace says, "The Ideas are, in the first place, the cause, that is to say, the ground (not the mechanical cause) of sense-objects. The Ideas are the absolute reality by which individual things must be explained."[13] According to Plato, the Ideas reside in the sense objects, and it is in this sense that the Ideas are the ground by which the world of particulars can be explained . He holds that the Ideas are the being of things , i.e., the being of things flows into them from these Ideas. When this sort of relation is ascertained between Forms and sensible objects, it is meant thereby that the existence of sensible objects is derived from their Ideas or Froms only by participation. On this view, things do participate in the Forms, for example, white objects participate in the corresponding Form "Whiteness", beautiful objects in the Form "Beauty", and so on. But Plato does not have any clear-cut conception as to what happens when a beautiful thing "participates" in the Form "Beauty". However, Crombie has tried to clarify the meaning of the word 'participation'. According to him, particular objects participating in the Forms (or universals) may be taken to mean that an individual beautiful object is an instance of Beauty rather than Beauty itself, i.e., the individual beautiful object has a share in Beauty and does not monopolise it. Now, when the object is destroyed, Beauty itself remains unaffected but the beauty of the object in question is destroyed. So he says, "In this way type-properties seem to be unchanging entities or onta, whereas

12. Gulley : *The Philosophy of Socrates,* p. 11.
13. Stace : *A Critical History of Greek Philosophy,* p. 194.

token - properties are essentially transitory and perishable."[14] Again Plato has used sometimes the word "imitation" besides the word "participation". In this sense, an individual beautiful object is an imperfect instance of the eternal onta which is 'Beauty'. It does not imply that a particular beautiful object is unreal, nor that its beauty is unreal. Rather it means that to assert that the thing, for example, rose is beautiful is not to assert the ontological Form or something which is true without qualifications or determinations. This shows why Plato speaks of an instance of Beauty, for example, as an instantiation of Onta. Crombie says, "But Plato talks not only of participation, but also of imitation, the shapes of the particles in the Timaeus imitate the eternal onta. There is perhaps a suggestion here that the properties of things are not only instances of universals lbut derivative and imperfect instances."[15] Thus understood, the Ideas are the originals of which the sensible objects are only the copies rather the inferior copies. In this connection, it is said that the Ideas are both immanent and transcendent, immanent in so far as they reside in the sensible objects and transcendent in as much they have a reality of their own apart from the sensible objects which participate in them. Further, one fundamental theses in Plato's philosophy is that "participation' here means only the one way relation of ontological dependence between non-eternal sensible objects and eternal Forms. According to this view, nothing can exist in space and time with a definite character if there does not exist its corresponding Form. But the converse is not true because infinitely many Forms exist without their physical instantiations.

In so far as the sensible objects participate in the Forms, we should say here that this sort of participation in the corresponding Forms is the cause or the explanation of the sensible particulars. So the first step towards Plato's theory of causation is such descriptions as a beautiful thing is beautiful because of its participating in its corresponding appropriate Idea, viz., the absolute Beauty. On this version, what is beautiful is made so by participation in absolute Beauty, and, hence, any other kind of explanation in terms of 'colour', 'shape', and so on can not be regarded as the "causal explanation" of the beautiful object. Similarly, the difference by a head cannot be said to be the cause of a man's superior height over another, rather "Tallness' is the cause of

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14. Crombie : *An Examination of Plato's Doctrine*, p. 47.
15. Ibid., p. 47.

his being tall. Now, the clarification so far made above regarding Forms as "causes", however, appears to be incomplete as well as inaccurate. so let us consider now the problem of determining the sense of the word "cause" in which the Form 'Beauty' but not colour or shape or head of an object can be regarded as the cause of its being beautiful or of its being tall. To this, we may say that the statements in the Timaeus the Philebus and the Phaedo throw some light on Plato's theory of causation. The definition of cause which he has constructed in the Timaeus (28a) is as follows : whatever comes to be must come to be through the agency of a cause; without a cause nothing can come to be. This sort of interpretation has an important implication on the status of the sensible objects. Whatever comes to be in this sense is an existent thing which is of such a nature that it is always coming to be and so it is never is . If so, this view of causation evidently shows that everything is becoming and as such it has necessarily the cause for its becoming. Not only the Timaeus but also the Philabus has a passage which contains Plato's account of causation. According to this view, everything that is becoming or coming to be does so of necessity through a cause. Plato has introduced here the words 'agent' and 'patient' which he has identified with the concept of 'cause' and 'effect' respectively. Therefore, he has used both of them in the same sense of cause and effect, and so the difference lies only in the name. Now the intention behind calling the cause 'agent' and the effect 'patient' is that we speak of the cause as leading and the effect as following. Further, the Phaedo also contains Plato's discussion of Forms as causes. He has regarded the Forms as teleological causes which have been further endowed with " force" or "power" such that they bring about causation or effectuation. Huby says, "Plato, in his turn, wanted all causal explanation, all explanation of why things are as they are, to be of this one type, with the idea of purpose extended far beyond the sphere of human mental events."[16] However, the teleological explanation of cause found in the Phaedo is exemplified in the purposeful agency of a mind, while in the Timaeus it is imputed directly to the activity of the divine souls. But this teleological interpretation is not satisfactory because we find in the dialogues of Plato that socrates himself has said that he is still "deprived" of the teleological cause for which he was searching, and Plato is not at all in favour of the teleological cause. Vlastos says, "It is therefore, unnecessary to inquire how Plato could have assigned, without grave

16. Huby in *A Critical History of Western Philosophy*,, p. 18.

confusion, to his Forms ... the teleological function which, both in his dialogue and in the Timaeus, pertains exclusively to mind or soul."[17] In the second place, it is argued that Plato's Forms are the efficient cause of generation in the Aristotlean sense. But this sort of interpretation appears to be unsatisfactory obviously for the reason that the concept of cause understood in this sense is in need of causal efficiency which is interpreted as having the meaning of "change" or "power to produce". If so, this standpoint goes against the notion of Forms because Forms in Plato's opinion are eternal and immutable entities which do not admit of any change in them. Secondly, the idea of efficient cause implies the idea of an individual agent who exerts power to produce an effect. Since the Forms are not individuals, they cannot be said to have any causal efficacy in the true sense of the term . This shows that the Forms cannot be regarded as "efficient causes". Therefore, the Forms mean neither the mechanical causes, nor the efficient causes nor the teleological causes.

There are, however, some scholars like Shorey, Vlastos and others who are of the opinion that when Plato speaks of Forms as causes, he has used the word "cause" in the sense of 'logical reason.' This is so because Plato, according to them, thinks that Form or concept stands for the account of the "essence" of an object to which it refers. Since it defines the essence of an object, it is what is called the logical condition of a particular sensible object, and hence the "cause" is a logical reason here. If so, the "reason" why a beautiful object is beautiful is that there exists the eternal, immutable and incorporeal Form "Beauty" in which the sensible object participates , and when it does, it is rightly called a beautiful object. In this sense, the logical cause is at the same time the metaphysical cause for a sensible object. In other words, Plato's forms like "Squareness", "Beauty", and so on represent only the 'logico-metaphysical conditions' in the context of the sensible objects because the logical relation of a sensible object to its corresponding Form under which it falls is at the same time the metaphysical relation of the sensible object to its eternal Form. Therefore, the question why this beautiful object is beautiful or why this figure is square is answered by saying that the particular object or the particular figure meets the logical condition. And it is this logical function of the Form that works as the explanatory function of the sensible objects. The implication

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17. Vlastos : *Platonic Studies*, p. 88.

of this standpoint is that when it is said that an object x is beautiful because it participates in the Form 'Beauty', it does not have any causal import. Hence, we have to describe the Forms as having no causal efficacy. Vlastos says, "In and of itself, Plato's Squareness has no more causal efficacy than has the nominalist's; it has no power to spawn earthly squares; if it did, so would the Forms, Myriagon, and each of the countless others that have had no mundane progeny and never will."[18]

Shorey has interpreted this position sketched out briefly above as only the tautological logic of the theory of Forms as causes and said that Plato is interested only in providing the logical reason instead of other causes. Vlastos says, "Paul shorey, at the other extreme maintained that when Plato speaks of the Ideas as *aitiai* he is offering "only a tautological logic ... a consistent and systematic substitution of the logical reason for all other forms of cause."[19] According to shorey, to say that something is the case in virtue of the Form is expansible into ' in virtue of participating in the Form.' Now, if a, b, c, etc are individual names, x is the individual variable, F is the property variable and ϕ is the Form variable, then the above interpretation that something is the case in virtue of participating in the Form is reducible to the following tautological logic : 'For all x, x is F if and only if x participates in ϕ. Form this it follows logically that a or b or c or any other x is F in virtue of participating in ϕ,' that is to say, the former logically entails the latter. If so, this sort of interpretation offered by shorey shows that the Form as a cause in this sense is purely the logical reason of particular objects like a, b, c and so on, and, hence, it does not say anything regarding the physical causation or any other kind found in the happenings in the world. Consequently, it is equally claimed here that the misunderstanding of the sense of logical reason creates puzzles in the case of mathematical Forms. The question : 'Why does 1, added to 1, make 2 ?' is usually answered by saying that we add 1 to another 1, and this operation of 'addition' is a physical process which is the cause of the number '2'. But we are mistaken here because things are two or numbers are two in virtue of participating in the Form 'Dyad'. Therefore, the 'why' in 'Why do 1 and 1 make 2 ?' is not physical 'why', and hence we cannot get it from our description of what physically happens to objects when they are moved or placed closer to each other but from the account of the "essence" of the number '2'.

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18. Vlastos : *Platonic Studies*, p. 92.
19. Ibid, p. 77.

Similarly, the group of 10 is greater or more numerous than the group of 8 because it participates in the Form 'Numerousness', i.e., it satisfies the logico - metaphysical conditions of "Numerousness". So the physical operation of addition of 2 to 8 is not the cause of 10 being greater than 8. Thus "The question whether the addition of 2 is the cause of 10 being greater than 8 is meaningless, because there is no more a cause of 10 being greater than 8 than there is of Thursday coming after Wednesday."[20] We can, therefore, conclude from this discussion that though there is no physical cause for such truth, yet there is certainly a reason for it, and this is what is called 'logical reason'. Sayre calls this logical reason the necessary and sufficient condition for the occurrence of a property F in a particular object x. He says, "I propose in the present section that the *aitia* of a characteristic in a particular thing is the necessary and sufficient condition of its being so characterised."[21] In this sense, the Form as a "cause" is not merely a matter either of necessary conditionality or of sufficient conditionality. On the contrary, the "cause" is one which is jointly sufficient and necessary condition for the occurrence of a particular property F in the individual x. On this version, the presence of the Form in a particular sensible object is both the sufficient and necessary condition for that object to be what it is. And the cause which is thus jointy sufficient and necessary condition is the cause in the purely logical sense of Formal logic. So, when we say that a particular colour or a particular shape is not the cause of a beautiful thing's being beautiful, we mean that neither of them is the cause in the sense of being jointly sufficient and necessary condition, i.e., in the logical sense. That is why, it is said that the Form "Beauty" alone can constitute both the sufficient and necessary condition of a thing's being beautiful. Hence, a thing is beautiful if and only if it participates in the absolute Beauty.

Vlastos, however, does not accept this interpretation of Plato's Forms as merely a 'logical reason'. He points out that if we conclude that the formula 'F in virtue of ϕ' is interpreted as stating merely the 'logico - metaphysical conditions' of sensible objects and, therefore, it does not have any causal significance, then it is misleading. In explaining this notion of causal significance which the formula carries, Vlastos has cited

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20. Vlastos : *Platonic Studies*, p. 131.
21. Sayre : *Plato's Analytic Method*, p. 3, footnote

such cases as "Fever" is the cause of "sickness", "Snow" is the cause of "cold", and so on. According to the formula "F in virtue of ϕ', it is said that an individual x is sick in virtue of participating in the Form "Fever", that is,s the Form "Fever" makes x sick. Now, if ϕ is not regarded as a cause of sickness in x, then we have to say that the Form 'Fever' cannot make x sick. In this sense, Shorey's interpretation of the Forms as cause solely in the sense of logical reason is going astray. This is so because we have to say, then, that the relation of entailment holding in such cases as 'John is sick because he has fever', 'a burning log is hot because it is on fire', 'the white stuff is cold because it is snow', and so on cannot have any causal implication. Vlastos says, " Such had been Shorey's claim when he maintained against Zeller that in the whole of this passage Plato is concerned with logic, not physics, adumbrating a theory of syllogistic inference, not of causal explanation."[22] Rather he holds that the relation of entailment in the formula "F in virtue of ϕ is equally a causal inference, and hence it cannot be empty of causal significance. It is clear that when Plato is speaking of the Form "Snow" as the "because" or "reason" of cold, he seems to be dealing with the causal structure of the world. This is so because it is not only that the snow of our experience is cold because the 'Form' of snow entails the 'Form' of cold but also that all such Forms are eternal and sustain immutable relations to each other. If so, the physical laws or the laws of nature must posses the same logical or mathematical necessity because of this immutable relation of entailment. Vlastos says, "And since in Plato's theory it is grounded in relations of entailment between Forms it would have to be a fantastically strong "must": : it expresses a physical law that has logical necessity.[23] Therefore, the concept of causality interpreted in terms of this logical relation of entailment involves the relation of logical necessity between cause and effect, that is to say, it states that when two events of cause and effect are causally connected, they are connected by the relation of logical necessity. Thus understood, our conclusion is that "The cause logically entails the effect in such a way that it would be in principle possible, with sufficient insight, to see what kind of effect must follow from examination of the cause alone without having learnt by previous experience what were the effects of similar causes."[24] This view of causality, thus interpreted, does not appear to be acceptable to many philosophers. All most all

22. Vlatos ; *Platonic Studies*, p. 104
23. Ibid, 105.
24. Ibid., p. 106, footnote.

the thinkers belonging to the Humean tradition hold that the laws of nature are in the last analysis radical contingencies. They have called them 'de facto uniformities' or the 'special cases of still more general defacto uniformities'. Whatever it may be, some philosophers like Leibnitz, Hegel, Bradley and Bosanquet have propounded basically the similar view of causality.

When it is said that the Ideas or Forms are the causes of the world of sensible object, a question naturally crops up here regarding the exact relation among different Ideas in Plato's hierarchy of Ideas. Though there are many Ideas, yet they are not isolated units but members of a single organised system. Stace says, "Just as the one Idea presides over many individual things of which it is the common element, so one higher Idea presides over many lower Ideas, and is the common element in them. And over this higher Idea, together with many others, a still higher Idea will rule.[25] For example, the Ideas of whiteness, redness, blueness are all subsumed under the one Idea of colour. The Ideas of sweetness, bitterness, etc. come under the one Idea of taste. But the Ideas of colour and taste themselves stand under the still higher Idea of quality, and the Ideas in this way form a pyramid to which there must be an apex. Consequently, there must be one highest Idea which is to be regarded as Supreme overall the others. According to Plato, this Idea will be the one final and absolutely real Being which is the ultimate ground (Cause) of itself, of the other Ideas and of the entire universe, that is the Idea which he calls the Idea of the Good or the Form of the Good. Bambrough says, "Plato insists that there must be a single form which is the form that orders reality. This is his "Form of the Good". The Form of the Good is the highest form and cause; it operates both in our thoughts and in fact, and gives reality its complex systematic order."[26] Therefore, the world of Ideas is one single system culminating in One Supreme Idea which is the highest expression of its unity. Now the admission of the Supreme Idea as the Idea of the good shows that Plato's system is out and out teleological. Stace says, "... the teleology of Plato culminates in the Idea of the Good. That Idea is the final explanation of all other Ideas, and of the entire universe. And to place the final ground of all things in perfection itself means that the universe arises out of that perfect end towards which all things move." [27] This teleology is obvious everywhere in the

25. Stace : *A Critical History of Greek Philosophy*, p. 198.
26. Bambrough : *New Essays on Plato and Aristotle*, p. 150.
27. Stace : *A Critical History of Greek Philosophy*, p. 202.

world of sense-objects because the actual objects called sensible particulars, as the perfection is not yet reached, tend towards the highest perfection. Here we see that Plato has frequently used the word 'God' and identified it with the highest Idea of perfection or the Idea of the Good.

However, the problem also arises here regarding the causal connection holding among the Ideas in the pyramid to which there is an apex. It is found that whenever the philosophers attempt to explain the problem of the universe they have started with the untilate cause from which the whole universe has been derived. Plato seems to be no exception in this regards, and holds that this ultimate cause consists of Ideas or Forms. In this connection, there are two problems. In the first place, Plato should provide an account of this ultimate cause so that it is capable of explaining the world of sensible things. In this connection, Plato has to show that the actual world of facts is deducible from this first principle. In the second place, this ultimate cause must be self- explanatory principle, i.e., in explaining the world of facts it must also explain itself, otherwise it can not be regarded as the ultimate cause or first principle. In so far as the first problem is concerned, Plato's solution appears to be unsatisfactory. Plato says that the existence of particular objects can be explained sufficiently by the Forms or Ideas. If the Ideas are a sufficient causal explanation of the actual existence of things, then it emplies that there must be in the very nature of the Ideas themselves some inner necessity which forces them to reproduce themselves in the sensible things. But the Ideas are, as Plato defined, self-sufficient, lacking in nothing. If so, then such Ideas need no further realization of their being in the actual manifestation of the sensible particulars. Thus, there seems to be in the Ideas no necessity that urges them towards reproduction of themselves, and this means that the Ideas can not be regarded as the principle for the explanation of the actually existing things. Again, if on Plato's view the cause is a Form which is changeless and eternal, then the inevitable outcome of this position is that it has no essential relation to time. Consequently, Plato has the Forms above space and time and, therefore, it appears difficult to imagine how we can significantly speak of the Form which is the cause as leading, or of the effect as following. This is because the Form as cause is no more a material cause and Plato's philosophy is not concerned with the concept of material cause at all. Now, the effects which are sensible objects are obviously something material. Consequently, matter which is not Idea stands outside,

thus leading to dualism. Since matter as a principle is quite independent of Ideas, its being is self derived and original. So, the cause which is an Idea can never become an effect, and thus it is also not clear as to how we can combine the idea of changeless Form with the idea of material objects which are, no doubt, changeable. Besides, the concept of cause ascribes to the 'Form the power' to produce an effect. But the Platonic Forms are defined as only changeless and eternal realities. While the concept of cause as the power to produce an effect certainly involves the dynamic character of the notion in question. Now, if the Form as a cause is understood in the sense of power that produces an effect, then certainly the Form must be dynamic in character and thereby it looses its unchangeable eternal aspect. Hence, it is not clear as to how we can combine the idea of changeless with the idea of dynamic power in the Form as the cause. Therefore, Plato's Forms or Ideas as the cause of the sensible world cannot explain this actual world satisfactorily.

In the second place, Plato tells us that the Idea of the Good is the Supreme Idea which is the ground of all other Ideas, i.e., the ultimate cause. But he has not shown that he has derived all other Ideas from this ultimate reality as the ground of them. If so, it means that the lower Ideas must find their necessity in the highest Idea. If we can see that the Idea of the Good necessarily involves the other Ideas, then these other Ideas would really be explained, that is, if it is possible for us to deduce all other Ideas from this one Idea, it would be possible for us to show that all other Ideas necessarily follow from this. This means that if we assume the Idea of the Good and deny other Ideas, it leads to self-contradiction. In this case, the Supreme Idea or the Idea of the good shall be regarded as the first principle. If so, on this interpretation, we should be able to deduce the Idea of whiteness from the Idea of the Good. But this seems to be obviously impossible. Stace says, "You may analyse the Good as long as you like, you may turn it in every conceivable direction, but you can not get whiteness out it. The two Ideas do not involve each other. They are thinkable apart. It is quite possible to think the Good without thinking whiteness. And it is the same with all other Ideas. None of them can be deduced from the Good." [28] Therefore, it is impossible to deduce the Idea of whiteness from the Idea of the Good, and hence it leads to self - contradiction. What

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28. Stace : *A Critical History of Greek Philosophy,* p. 244.

is obvious is that neither the Ideas can explain the world nor they can explain themselves satisfactorily. We can say that Plato's notion of Form or Idea as the cause of sensible world is not very consistant and, therefore, suffers from some sort of impreciseness "sometimes he speaks of the cause as a Being or Form, sometimes as a force or power and at other times as an end or purpose. Perhaps he means it to be all these. But it is difficult to combine these ideas and get a clear and consistant picture of the cause. On the whole, however, he inclines towards a teleological view, but the teleology that he accepts is external teleology. As such it shares all the defects of that familiar doctrine. The causal relation on that view must be arbitrary in the last analysis, and the statement quoted above, that the *cause* naturally leads and the effect *naturally* follows it, loses all force and significance."[29] Whatever defects are there in Plato's account of causation, it is, however, clear so far that he has an intention to explain that the entire world in the causal process continuously develops towards the final cause. Consequently, the world, as Aristotle also has maintained , is well ordered so that everything in it is the best possible state. For this teleology Plato demands a perfect being or the Idea of God to whom everything ultimately owes its being, and hence this concept of causality from this stand point of ultimate cause is purely a metaphysical concept that essentially goes beyond the grasp not only of the ordinary people but also of the science in general.

Aristotle's treatment of causality cannot be kept aside from our discussion of the problem. In this connection, it should be mentioned here that though it is not so easy to categorise Aristotle as a rationalist philosopher, yet his metaphysical conception of causality throws some light on the idea of necessary relation involved in the causality. Besides his fourfold causes or "becauses" are ultimately reducible to Plato's Form and matter. So Aristotle's treatment of causality deserves to be mentioned here for the clarification of the rationalist notion of causality. The predecessors of Aristotle have admitted various kinds of causes. Most of them have accepted the material substance as the fundamental cause in the production of things. According to Thales, water is the fundamental substance as constituting the material cause of everything . Anaximenes accepts air as the primary substance of all things. There are some philosophers like

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29. Bhattacharya : *Causality in Science and Philosophy,* p. 20.

Empedocles who have recognised earth, water, fire and air as the fundamental causal principles. It is obvious that all these philosophers have accepted only one kind of cause which is material by nature. But Aristotle goes against this tradition and argues that a material cause, as Aristotle argues, can not by itself generate any change or bring about any movement. For example, bronze does not change for itself or for its own accord. So it is in need of some agency which starts the motion in the substratum. This agency is called by Aristotle the "efficient cause". This shows that these philosophers [Except Parmenides] do not have any idea of the need of the efficient cause. So some of them have showed a further interest in the search for the efficient cause. Anaxagoras accepts that there is Mind in nature; it is the cause of order and arrangement in nature. Empedocles holds that good is the cause of all good things, and Evil is the cause of all evil things. While Anaxagoras accepts Mind as a kind of "deus ex machina" to create order. But Aristotle says, "It is clear, ..., that philosophers down to the time of Empedocles recognised two of the causes defined in my *Physics*: the material and the efficient. But they do so vaguely, inadequately, and rather like untrained troops in action who run about all over the field and may often get in some good blows, though not as the result of any skill."[30] On the other hand, Aristotle does not accept Plato's view of Form as the cause of the sensible world, for the problem crops up regarding the "participation" of the sensible objects in the Forms. When the Pythagoreans have introduced mathematical numbers as constituting the cause of the sensible world, they have interpreted it as "imitating" numbers. But whatever interpretation they offer in support of this relation, none of them has succeeded in doing so. On the one hand, the mathematical numbers of the Pythagoreans cannot built up the sensible world. On the other hand, Plato fails to demonstrate how the unchangeable forms can at all be related to the changeable particulars. Aristotle argues further that although these philosophers have admitted the causes, whether material or efficient, we cannot understand how one of these elements can alone play the role of a cause in producing an effect.

Aristotle's treatment of causality has been developed especially in his book *Physics*. The theory by which he tries to explain how things come to be is known as the theory of causality. He has classified cause into four kinds, namely, the material, the formal, the efficient and the final. First, the material cause is what we ordinarily call the

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30. Warrington : *Aristotle's Metaphysics*, p. 63.

matter or the stuff out of which a thing is made such as "bronze", "wood", etc. In a bronze statue, bronze is the matter which constitutes this bronze statue. Now, the most essential feature of this material cause is that it does not vanish when the effect is produced but only remains (i.e., subsists) in its effect. Consequently, the material cause is something static. Secondly, the formal cause is a formula or the definition of a thing giving the principles according to which the thing is constructed. Aristotle regards it as the formal cause [of the thing] because it stands for the form or structure of the thing. This notion of cause resembles the concept of Form in Plato's philosophy. Since the form of a thing is static, the formal cause is equally static. Thirdly, the efficient cause means the relation which is like that of an agent to the thing which is done i.e., the relation of the producer to the thing produced. In this sense, a producer brings about a change from the potential to the actual. So, the efficient cause is that which is the source of power or force in order to bring about a change. Fourthly and lastly, the final cause means the end or purpose for which a thing is made or towards which the movement is directed. To make all these four causes intelligible to us, he has used the example of house-building. He says that the bricks, mortar, glass, tiles and so on which go to make up a house constitute the material cause of the house. The craftsman who puts these materials together is called the efficient cause. The formal cause lies in the plan of the architect who decides to give the house a form or a shape. This form of the house which the architect wants to provide is the formal cause of the house. While the final cause is the purpose for which this house is built, viz., that of providing shelter and comfort. Aristotle's interpretations of the four-fold causes have the implication that when there is a need to offer a full explanation of an articraft like a house, all these four causes are required. Aristotle's treatment of causality is deeply influenced by such examples which he calls the paradigms or standard cases. He holds that causality in this sense means such cases where the influence of a final cause seems most clearly at work. Here there is a conscious foresight, i.e., the notion of the final cause for the sake of which something is done, and it is called "an end in view". So, one may argue that the concept of four causes in this sense is inapplicable to the change or movement other than the planned articraft like house, machine, etc on the one hand and biological process on the other. This analysis seems to be inapplicable to such a case where a seed develops itself to a plant. It may be said that there is no conscious purpose or foresight involved here. Yet we see that there is an unconscious purpose or function in

the case of the development of a seed to the plant. We can not but admit that the final cause of the seed is the last stage of the process of its development. This last stage is called an "end in time". The Greek word *telos* carries the two meanings of "an end in view" and "an end in time". So, the final cause is not only at work in human artifacts and biological processes but also in the case of such developments. Huby says, "Thus, the final cause of a biological change like the growth of a plant came to be equated with the development of plant itself."[31] According to Aristotle, it is not possible for one cause to produce an effect, and hence, a single cause is necessary but not sufficient for accounting a thing being in a certain state, i.e., the change in a thing. Aristotle has described matter and form as internal conditions, and the efficient and the final cause as the external conditions. These two conditions have been regarded by him as both the necessary and sufficient conditions for the production of an effect. It is to be noted here that Aristotle's efficient cause and final cause together define cause used in English, for example, "exercise is the cause of health". In this case, exercise is to be regarded as the efficient cause of the health, while health is to be understood to mean the final cause of the exercise. Ross says, "It will be noted that of Aristotle's four causes only two, the efficient and the final, answer to the natural meaning of "cause" in English. We think of matter and form not as relative to an event which they cause but as static elements which analysis discovers in a complex thing. This is because we think of cause as that which is both necessary and sufficient to produce a certain effect".[32]

Now, Aristotle in his "A Philosophical Lexicon" has explained the variety of the meaning of the word "cause". The word "cause" denotes : " (1), "That from which (as immanent material) a thing comes into being, e.g., the bronze of a statue, the silver of a drinking bowl, and the glasses to which bronze and silver belong." (2) "The form or pattern of a thing (i.e., the formula of its essence), the classes to which it belongs, and its own parts." (3) "The starting -point of change or rest. Thus an adviser is the cause of an action, and a father of his child. In general, the maker is the cause of the thing made, and that which changes of that which suffers change." (4) "The end , i.e., that for the sake of which a thing is. For example, health is the cause of walking : in answer to the question, why does one walks ? We reply 'In oder to be healthy'; and in saying so we

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31. Huby in *A Critical History of Western Philosophy*, p. 52.
32. Ross : *Aristotle*, p. 73.

believe we have assigned the cause. The same is true of all the means which had from an independent source of motion to its end. Thus, slimming, purging, medicines, surgical appliances, all lead to health; all of them exist for the sake of the end, though they differ one from another in that some of them are instruments and other acts." "[33] The above interpretations have the implication that a thing cannot have one cause but several causes. It has been said that both the sculpture and the bronze are causes of the thing "Statue", and none of them can be called the causes in the same sense. They are different in the sense that bronze is the material cause, while sculpture is the efficient cause. Again, a thing may be a cause in some sense while an effect in another sense. For example, "exercise may be the cause of good health, and this good health may be the cause of the exercise. Further, a single cause may have opposite effects, for example, the absence of a pilot in a ship causes the ship-wreck but his presence causes the vessel's safety. Thus, Aristotle is in favour of the plurality of causes and classifies them as (i) Proper Cause (2) Genus or Proper Cause, (3) Incidental Cause, (4) Genus or Incidental Cause, (5) Proper and Incidental Cause combined, and (6) Genus of Proper and Incidental Cause combined. However, Aristotle's interpretatioin of causality makes it a dynamic view of the cause. This is because his causation is one of continuity, for the cause becomes effect and in the process of causation matter adopts a new form. According to him, the whole universe is a continuous development which has its meaning in the final cause. If so, Aristotle's notion of causality is teleological. The teleos or purpose is explicit especially in the biological process or developmental phenomena. According to him, the behaviour of Nature is completely purposeful. Ross says, "The world, Aristotle is maintaining, is well-ordered; i.e. everything in it is disposed so as to assure progress towards its best possible state."[34] So, it is evident that Aristotle's vew of causality is essentially teleological. In nature , there is in everything an innate tendency for developing itself towards some direction for which Aristotle has accepted the idea of an unmoved mover or God. Guthrie says, "A perfect being is demanded, the 'best' by which all the "better" and "worse" in this world of matter and imperfection are assessed, a first cause to which all the causes of motion and change within the world ultimately owe their being."[35] It is to be remembered here that Aristotle is in search for the kind of knowledge which he calls wisdom, and it is this knowledge of all these four

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33. Warrington : *Aristotle's metaphysics*, p. 4.
34. Ross : *Aristotle*, p. 79.

causes that has been regarded as wisdom. Now it is clear that Aristotle's theory of causality is very much different from that of Plato. Plato's cause is entirely composed of Form which is a timeless logical entity, i.e. the entity which is not changed by change. Secondly, the effect here is nothing but a mere copy or imitation of the cause which is Form. If so, it implies that the effect is a false appearence of the cause. The obvious result is that the Form which is unchangeable can have no genuine connection with the effect or the sensible objects which undergo various changes. On the other hand, Aristotle's notion of cause has tried to connect matter with form, and allowed change as a factor in the notion of causality. On this version, the whole universe is a continuous development which realizes its meaning in the final cause (or God). However, Aristotle's conception of causality does not have so much importance in the field of modern science. The reason is usually two fold. First, it has been entirely a metaphysical notion due to the introduction of God as the final cause of everything. Secondly, modern science is no more concerned with the four kinds of causes as expounded by Aristotle but only with the particular or specific cause of everything. Besides, whatever analysis Aristotle provides to the notion of causality, his interpretation ultimately corresponds to his distinction between matter and form. Material cause appears to be identical with the matter of a thing, while form includes within it his notions of all the three. 'In fact, Aristotle admits that the efficient, formal, and final causes "often coincide" so that his account of causality is one aspect of his doctrines of matter and form. The material cause is matter; the formal, efficient, and final causes together constitute the form.' Therefore, it clearly shows that Plato's distinction between Matter and Form reappears in Aristotle's interpretation of causality.

2.2 The Later Rationalist Approach :

The later rationalist philosophers also come forward subsequently with the a tendency to regard causality as a concept that involves a necessary relation of the metaphysical type. These philosophers have begun with the absolute or ultimate cause to provide the explanation of the universe, that is, they claim that the existence and

nature of finite things have been derived necessarily from this one ultimate cause. Rene Descartes, C.W. Leibnitz and Benedict Spinoza belong to this later rationalist tradition. Their ideas have been developed further by their subsequent thinkers like Hegel, Bradley and Bosanquet.

Descartes' concept of causality plays a vital role in his entire philosophical system. In the opening moves in the *Meditations,* Descartes has introduced several different senses of causation The causal considerations here seem to be based on the two types of his hypothesis, viz., the dreaming hypothesis and the evil-demon hypothesis. In the First Meditation Descartes has raised doubts concerning the "causes" of the ideas derived through our sense-perception as well as the "causes" of our beliefs or judgments, mathematical and otherwise. The sceptical doubt which is based on the dreaming hypothesis is a doubt about the causes of sensory ideas, i.e., the doubt as to whether the external material things which "cause" our sensory ideas resemble those ideas. If it is true that I am dreaming right now, then my current sensory perceptions or sensory ideas do not resemble their causes. On the other hand, the sceptical problem based on the evil demon hypothesis holds that the "cause" of my ideas of mathematical objects such as triangle, etc is an evil demon who makes my ideas fail to resemble their objects (i.e., mathematical entities). So, if the cunning and malicious demon or genius is the cause i.e., a thoroughly deceptive cause, then it makes the object appear otherwise than as the object is. Therefore, my idea may fail to resemble the object, for example, the triangle, and I may repeatedly miscount its sides. One immediate consequence is that when the sceptical doubt raised in the First *Meditation* concerns the relation betweena the ideas and their causes, it means the 'introduction of deceptive causes' in relation to the possibility of ' deceptive appearances'. However, Descartes in his *Meditations* has introduced the universal doubt as a method to review the entire knowledge, i.e., all our ideas about the world so far gained. And this procedure has led him in the long run to arrive at the most fundamental truth of his philosophy, namely, 'Cogito Ergo Sum' what is further called by him the basal truth or the first principle of his philosophy. Now the immediate implication of this truth, when it is first obtained, is that it has led Descartes to solipcism. This is so because there is an impassable barrier between oneself and the external physical world. Descartes has tried to solve this problem by introducing the concept of causality specially in the context of proving the existence of the Divine Being or God.

The Cartesian theory of causality is based directly on the well-known axiom " Ex nihilo nihil fit". Kemp Smith says, "As regards causality, what could be more explicit than Descartes' statement in Principles ? "When we recognise that it is impossible a thing can arise from nothing, this proposition, ex nihilo nihil fit, is not being viewed as an existing thing, or as the mode of a thing. As an eternal truth, it has its seat in our mind, and may be entitled a common notion or axiom."[1] This principle of causality has received a more explicit as well as a positive shape in his *Meditations.* It has been stated thus : " the reality contained in an effect must be contained either formally [i.e., actually] or eminently in its cause."[2] The significance of this statement is that by an appeal to our 'natural light' of reason we come to know that there must be at least as much reality in the cause as in its effect, because whence the effect can draw its reality if it does not get from its cause or how this cause can 'communicate' the reality to its effect if it did not itself have it. So a thing cannot arise out of nothing, and also that the thing which contains more reality cannot come into existence from that what contains less reality. Kemp Smith says, "And hence it follows, not only that something cannot proceed from nothing; but also that what contains more reality cannot proceed from what [contains less reality] ... Thus, for example, a stone which has not yet existed, cannot now begin to be unless it be produced by something which possesses in itself the same things or others more excellent than those which are in the stone."[3] Being armed with this concept of causality, Descartes proceeds to consider the way of investigating the cause of the ideas as stated above. There are some ideas which are considered simply as mods of thought; these ideas have no objective reality and vary widely. On the contrary, the ideas of substance contain within themselves more objective reality than the ideas which are merely modes of our thought. In this connection, we should be clear about the two notions, viz., formal reality and objective reality. Cottingham says, "According to the scholastic distinction ... the 'formal' reality of anything is its own intrinsic reality, while the 'objective' reality of an idea is a function of its representational content. Thus, if an idea A represents some object X which is F, then F-ness will be contained

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1. Kemp Smith : *New Studies in the Philosophy of Descartes,* p. 315.
2. Ibid., p. 316.
3. Ibid., p. 316.

'formally' in X but 'objectively' in A".[4] This shows that the ideas which are merely the modes of our thought do not require 'formal' reality nor they have any 'objective' reality. But the problem is otherwise in the case of given ideas. Such an idea to possess the objective reality must derive it from the cause which has at least as much 'formal' reality as there is 'objective' reality in the idea concerned. Cottingham says, " The nature of an idea is such that of itself it requires no formal reality except what it derives from my thought of which it is a mode. But in order for a given idea to contain such and such objective reality, it must surely derive it from some cause which contains at least as much formal reality as there is objective reality in the idea.[5] It may, therefore, be mentioned here that we should not suppose that the objective reality which a given idea does possess need not exist formally in the cause of this idea. Cottingham says, "For just as the objective mode of being belongs to ideas by their very nature, so the formal mode of being belongs to the causes of ideas —or at least the first and most important ones — by *their* very nature."[6]

Now, let us deal with the problem of causation which Descartes has applied in the context of proving the existence of God. According to him, the idea by which I understand Supreme God who is eternal, infinite, omniscient, omnipotent has in it more objective reality than the ideas that represent the finite substances. Now, this idea of God is the idea of a perfect being, i.e., the idea which contains all perfections in it. Again, this idea of a perfect being is not created by me as a mode of thought but a given idea having an objective reality or objective perfection. Since the idea of God is the idea of objective perfection or reality, it requires a cause which actually contains whatever is contained objectively in the idea. Therefore, I cannot get the idea of the perfect being if it does not exist, and so God as a perfect being exists. Cottingham says, "I do not see what I can add to make it any clearer that the idea in question could not be present to my mind unless a Supreme being existed."[7] On the basis of the veracity of God (or the Supreme Being) Descartes proceeds to prove the existence of all objects that exist apart from God, and argues that not only he himself but also everything else have been created by God. Thus, "That the idea of God is a clear idea of possible existent is plain from the fact that we can define what we mean by God. By the name God I mean a substance

4. Cottingham : *Descartes*, p. 28.
5. Ibid., pp. 28-29.
6. Ibid., p.29.
7. Ibid., p. 89.

that is infinite, eternal, immutable, independent, omniscient, omnipotent by which I myself and everything else, if indeed anything else exists, have been created."[8] In this connection, it should be mentioned here that Descartes is a great mathematician. So we find him being guided by the influence of mathematics at the time of his interpreting the concept of causality. It is very much explicit when he says that the effect cannot be greater than the cause or it cannot contain more reality than the latter. This is the same as the popular saying that 'nothing comes out of nothing' for if we allow that there exists something in any effect that did not exist in its cause, we must further allow that this "something" comes from nothing. In this sense, the degree of the reality in any cause can never be less than that of its effect, though the degree of the former may well exceed that of the latter. Now, Descartes admits only the type of causality which is called the efficient causality. Then we have no other alternative than to say that God is standing to Himself in the same fashion in which an efficient cause stands to its effect. This position is taken to mean that God is self-caused in a psotive sense, and it is not supposed to imply the negative sense in which God is not in need of a cause. Descartes here faces two objections. In the first place, it is said that if all efficient causes precede their effects in time, then to conceive God as causing Himself in the manner of an efficient cause is to conceive Him as existing before he exists which is absurd. In the second place, it is objected that if all efficient causes are different from their effects, then to regard God as the efficient cause of Himself, in any ordinary sense of the term 'cause', is again impossible. But these two objections are not insurmountable. In this connection, there is one view of the efficient cause according to which it is maintained that if there is in an object some 'power' which is 'sufficient to make it continue to exist in future', then it is said that this power is the 'efficient cause' of the object in question . This is what is called the positive sense of the efficient cause. Since this power is not found in the idea of a body, we should say that the body does not derive its existence 'from itself'. This interpretation does not apply to God. Cottingham says, "But the fact that God, derives his existence from himself or has no cause apart himself, depends not on nothing but on the real immensity of his power ; hence, when we perceive this, we are quite entitled to think that in a sense he stands in the same relation to himself as an efficient cause do to its effect, and hence that he derives his existence from himself in the positive sense."[9] The same view is equally found in the argument put forward by Kemp

8. Haldane & Ross : *Meditation III*, p. 163.
9. Collingham : *Descartes*, p. 89.

Smith, He says, "The causality, whereby God determines His existence, is not any transeunt action, but is His "great inexhaustible power, the immensity of His power or essence"; and *in the limit* this power is co-extensible with all else that is God's essence. The universal applicability of the principle of causality is thus being consistently held to; and our right to use it in demonstrating God's existence is thereby vindicated."[10]

It is to be noted here that such interpretation of causality does not exclude the concept of mechanical causation or determinism in the heppenings of natural events. In explaining the happenings in the world of nature, he seems to have favoured the deterministic or mechanical view but in a very peculiar manner. He has proceeded here along the line of the scientists like Kepler and Galileo, Kepler has explained the movements of the planets in terms of the mathematical laws which ascribe "determinism" to the happenings in nature. Galileo also has explained the natural events, e.g., "the falling of objects on earth" in the similar manner. On this version, all natural phenomena can be explained mechanically, and there are some fundamental unchanging natural laws underlying the mechanical interactions. Kepler claims that the laws of planatory motion are derivable from mechanics because the planets are pushed along in their orbits by a wirl or 'Vortex' of tiny material particles swinging around the sun in just the same way that a leaf is wirled around by a current of air. Descartes also regards the natural world as a single deterministic mechanical system. According to him, all the diverse phenomena are never random or isolated events , rather they are governed by the unchanging laws of nature. Hence, the interactioins among the natural pehnomena are always mechanistic. He holds that even the life of an animal is exactly like the working life of a machine and the human body also is another mechanism of exactly the same kind. According to him, God is the divine clock- maker, and has created at the time of creation this world and set every part of it in motion. He says that the whole of nature which resembles the giant clock work - the seventeenth century's favourite analogy. It is ticking along until the end of the world; it is powered by an unending series of pushes and pulls, bumps and twists, shakings and swirlings. According to Descartes, God is the ultimate cause of this world whose movement is strictly deterministic under the divine influence. The persistence in existence is due to God, that is, at every moment. God creates the world afresh. Now this is the position that

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10. Kemp Smith : *New Studies in the Philosophy of Descartes*, p. 318.

each finite thing has no hold on its existence that it requires at each moment. If so, it can not cause changes in one another. Then we are led to the most extreme form of occassionatism. So the relation between God and the world is double . First, God has created this world and set every part of it in motion, the original motion has been conserved through all the mechanical interactions which has been taking place from that day to this. Secondly, God sustains it in being from moment to moment. Therefore, the reason why, for example, some particular beam of light is reflected from a surface at an angle of 30 degree is not only because it hit the surface at an angle of 30 degree but also because God was at that time maintaining the law of reflection whereby the angle of incidence equals the angle of reflection. In the same way, the reason why a stone lying in the field continues to lie in that field is not only because no one comes along to move it but also because god keeps in operation during this period the laws which determine its nature and its structure. In this way God's concourse' or 'concurrence' is involved at every moment of history. Without the continual involvement of god, the clockwork mechanism of the universe will not only fail to tick but also will be chaos and nothingness. Thus, the relation what we find in the natural events, i.e., between object and its aspect is mirrored in the relation between god and the object. When we are concerned with any aspect of the object, this means that we are talking about the matter itself. This, in turn, means that we are speaking about one aspect, of God, and so we are speaking of God Himself as the only substance. Consequently, this standpoint goes in favour of the Cartesian theism.

However, the inevitable outcome of the cartesian metaphysics is this sort of occassionalism, i.e., the view that God, when required, sets every object in motion. Malebranche, one of his important successors, argues that there is nothing in the conception of finite thing that can make us believe that it can act on and produce effects in other things. This assumed power is a fiction, and therefore every philosopher has been able to conceive it as he pleased. For example, some have regarded it as a substantial form, while some have regarded it as figure and motion. But Malebranche, holds that bodies have no more inherent power of continuing in motion than continuing in existence. It means only that God maintains and 'moves' each body by creating it a new successively in different places. Malebranche thus denies the reality of motion altogether except as miraculously determined change Geulinex holds that though the

human soul is conscious, yet it cannot conceive how bodily movements are brought about, and so it cannot be the cause even of its voluntary movements. Therefore, all causality belongs to God. Now the cartesian argument to establish the existence of God as the ultimate cause of the world appears to be very much unsatisfactory. In this connection Wilson's objection seems to be important. He says, "If does not seem to me that God can be ascribed the power to make Himself actual. I even think this follows from Descartes own principles. To say that God has the power to actualize Himself is to say that His omnipotence, considered as a possible entity, is sufficient to bring about the actual existence of itself. This is to say that something considered merely as possible can have an actual effect with the same degree of formal reality as itself. And this seems a clear violation of Descartes' principle that for every effect there must *exist* a cause with as much reality as the effect".[11] Besides, we have already mentioned that Descartes has been influenced by mathematics in his interpretation of the very notion of causality. He has described it deductively in terms of logico-mathematical consequences. In a logical deduction the consequence not only follows necessarily from the ground or reason but also the consequence itself can not be greater than the ground. Similarly, the effect in the Cartesian interpretation is the necessary outcome of the cause and it cannot be more than the effect. But the unsatisfactoriness of this theory lies in the equation of the real cause with the logical ground or reason as well as in the identification of the real causal connection with national or logical connection. While interpreting the Cartesian notion of causality, Kemp Smith in his "*The Cartesian Philosophy*" (p.72) holds that Descartes has identified cause with reason. But it is to be admitted that "rational connection" and "physical connection" are not identical because the former yields the necessary truth that justifies itself by its inevitableness for thought, while the latter is only contingent for thought because the relation here can be ascertained only empirically. But it is always argued that Descartes' theory of causality has been formulated in terms of the first kind of rational connection.

Now, in so far as Spinozs's theory of causation is concerned we, however, find that the many beings of experience have been causally explained by reference to the unique infinite substance which Spinoza calls 'God or Nature.' According to him, the concept of causality implies the strict necessity, i.e., the strict necessary relation

11. Wilson : *Descartes,* p. 176.

between what Spinoza calls finite things and divine substance respectively. In so far as the cause in this sense produces its effect necessarily, the very existence and nature of the effect depends entirely and logically on its cause. Now, the concept of cause in the Spinozistic system has been directly influenced by the cartesian mathematical method which Spinoza calls the geometrical method. The application of this method inevitably leads to the consequence of the identification of causality with the implication which is obviously the relation of the logical sort of dependence. Here we find that Spinoza is, no doubt, impressed by Cartesianism and he regards the logical deduction from clear and distinct ideas as providing an explanatory account of the world, as rendering the world of experience intelligible. And this point of view involves the fact that the causal relation is akin to the relation of logical implication. Now the clear and distinct idea work here as assumption or definition, and Spinoza holds that they are true. Only in such a case the logical deduction of conclusions must be infallible. "But Spinoza was convinced that each definition expressed a clear and distinct idea and that 'every definition or clear and distinct idea is true'. And if the intellect operates with clear and distinct ideas and deduces their logical implications it cannot err ; for it is operating according to its own nature, the nature of reason itself. Thus, he criticizes Francis Bacon for assuming that 'the human intellect is liable to error, not only through the fallibility of the senses, but also solely through its own nature."[12] Here Spinoza holds that the logical deduction of conclusions from the appropriate set of definitions and axioms is at the same time a metaphysical deduction and gives us knowledge of reality. So it is obvious from this descussion that the order of ideas and the order of causes are the same. And when it is asked about the truth of the assumption or hypothesis from which the conclusions are deduced, Spinoza says that the assumptions are true because the deduced system gives a coherent and comprehensive explanatory account of the world as we experience it . And, consequently, the employment of the geometrical method is also equally justified by such results.

In a logical deduction the ground or premise is in some sense hypothesis or assumption which is taken for granted. Spinoza is not willing to speak of the grounds of his logical deduction as assumptions because we find him saying in the Ethics that 'the order and connection of ideas is the same as the order and connection of things'. "In the

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12. Copleston : *A History of Philosophy,* p. 211.

proof of this proposition he remarks that its truth is clear from the fourth axiom of the first part of the Ethics, namely, 'The knowledge of effect depends on the knowledge of cause, and involves the same'. Spinoza adds, 'For the idea of everything which is caused depends on the knowledge of the cause of which it is an effect'. It is arguable, of course, that even if we grant that to know an effect adequately involves knowing its cause, it does not follow that the causal relation is akin to the relatioin of logical implication."[13] So Spinoza claims that here we should start with the infinite divine substance which is not an assumption but an ontological reality. The argument's premise should be this divine essence or nature which is logically and ontologically prior to all our knowledge, and things, then, proceed by logically deducible stages. If all things follow from their grounds in the same way as the properties of a triangle follow from its definition then this connection between things must be that of logical dependence. Thus, the principle of causality is, on Spinoza's view, transformed into the law of identity because the effect is here understood as one of the qualities or attributes constituting the divine substance as the cause. Therefore, he has defined an effect as that which can be deduced with logical necessity from the notion of the cause. Spinoza says, "From a given determinate cause an effect necessarilky follows; and, on the other hand, if no determinate cause be given, it is impossible that an effect can follow. (Ethics I, 3 & Episticla 4). Therefore, it is clear that Spinoza has tried to assimilate the causal relation to the relation of logical implication and argued that the finite things proceed necessarily from the infinite substance, God.

The question, therefore, arises as to what this divine substance is and how the finite things proceed from such a substance. When we are concerned with Spinoza's notion of substance , we find him saying that the substance is the cause of itself and of everything else, and hence it constitutes the reality of all else, supports them and produces them, and as such it is the cause of all things. It is obvious from part I of the Ethics (axiom 4.) that to know a thing, one must know its cause, and it is because the knowledge of effect depends on the knowledge of cause and involves the same. What is, therefore, implied here is that to explain a thing is to assign its cause or causes. So Spinoza has defined substance as 'that which is in itself and is conceived through itself : I mean that the conception of which does not depend on the conception of another thing from which

13. Copleston : *A History of Philosophy,* p. 212.

it must be formed . Now that which can be known through itself alone cannot have an external cause, and substance, then, is what Spinoza calls 'cause of itself'. This means that Spinoza's substance is completely self-dependent, i.e., it does not depend on any external cause either for its existence or for its attributes and modifications. In Part I of the Ethics Spinoza says, "I understand that to be cause of itself the essence of which involves existence and the nature of which cannot be conceived except as existing'. It follows that substance in this sense must be absolutely infinite, having an infinite of attributes. Spinoza calls this substance God who comprises in Himself all reality, and Nature is, therefore, not ontologically distinct from God,Stuart Hampshire says, "A substance, all of whose attributes and modifications can be deduced from its own essential nature, and all of whose attributes are therefore necessary and not contingent, can be described as 'cause of itself' (causa sui); and only such a substance can be so described. It is Spinoza's fundamental argument in Part I of the Ethics that there can be only one substance which is causa sui, and that this single substance must be identified with the universe conceived as a whole; this unique all-inclusive totality he therefore calls 'God or Nature , (Deus sive Natura)."[14]

It is, therefore, asserted by Spinoza that God is the creator , i.e., natura naturans and the creation i.e., Nature maturata at the same time. In so far as his logical process of deduction is concerned, the individual things (finite modes) are all necessary deductions from this single cause. So, Spinoza's reply to the question as to how things proceed from God is that here we are passing from God (Natura naturans) to Nature (Natura naturata), and the individual things and beings of Nature come into existence neither by creation nor by emanation. God does not put them forth from himself but they follow out of the necessary nature of God. This way is the same as that which we find in geometry. The things and beings necessarily come into existence from the nature of God as it follows from the nature of the triangle that the sum of its angles is equal to two right angles. So, the things that make up the world or Nature are related to God as the properties of a geometrical figure are related to its concepts, as theorems to its axioms as the deduction to the principle, which from eternity contains all that follows from its and retains this even while putting it forth. It is just this fact that they are in another, God that constitutes their lack of self - dependence. This God as their inner indwelling cause

14. Hampshire: *Spinoza,* p. 36.

is not a transcendent creation but Natura naturans over against the sum of finite things, Natura naturata. On the basis of Spinoza's interpretation, it is clear that all finite things are caused necessarily by God, determined by the necessity of divine nature for existing and working in a certain way. he argued that 'things could not have been produced by God in any other manner or order than that in which they were produced.

In this treatment of causality we find that Spinoza has developed with strict consistancy the consequence of the Cartesian interchange of real cause and logical ground. According to him, the relation between cause and effect is not only identical with that of ground and consequence but also with that of substance and quality. Since the cause is the notion in which the effect is necessarily involved, the effect must be an inherent and permanent quality of the substance as the ground. Spinoza holds that all finite things are modes or modifications of the two infinite attributes of thought and extension of the divine substance. Therefore, all the finite things according to this principle of causality, are determined by the necessity of the nature of the divine substance, and hence exist and act in a certain manner or order. Consequently, we cannot say that all the finite things are only contingent in the sense that all of them follow contingently but not necessarily from the divine nature. God causes them necessarily in the sense that He could not omit to cause them, nor he could produce any other thing or order of things than those which he actually causes. His actions do not follow from any external necessity but is a free cause in the sense that he does nothing except that towards which His own nature impels Him, that is, He acts according to the laws of His being. Because of this necessitation the undetermined choice, inconsistency etc are excluded from God as imperfection. Thus, it is clear that in nature everything is to be rationally understood as only determined by necessary causes, and, therefore, any event in nature is a determined fact and nothing is contingent. Roth says, " Natura naturans is self-determining, hence natura naturata is determined. The constituent parts of the system, because they are integral to the system, have their place set for them. The internal economy of the whole is fixed. Thus Spinoza is led to a thorough and complete determinism. The eternal nature of the divine essence, the unique substance, Deus sive Natura , is revealed in the chains of causality binding the modes together."[15]

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15. Roth : *Spinoza*, p. 85

We shall see later on that Hume and his followers have tried to deny this necessary connection between cause and effect, and find them maintaining that there is no such necessity in Nature. On this Humean interpretation, we have to admit that the universality and contingency in the happenings or occurrences in the physical world. But Spinoza, as we have seen, holds that there is neither this contingency, nor any uncertainty in the happenings of Nature. On the contrary, the whole world is a single causal system with its finite individuals connected like the different propsitions in Euclidean geometry. Joachim says in support of Spinoza's position thus, "There is no change, no possibility of anything having been (or being) otherwise. The existent order of the universe and the existent nature of its component elements, not only is, but must be, what it is, and not only must be granting certain, starting points, but must have been - could not possibly have been otherwise."[16] So the relation between cause and effect is necessary and inseparable; the effect comes into existence or being because of the latent qualities which were in the nature of cause, and such a determinism logically follows from the power of God. Here Spinoza holds that we have no capacity to understand this causal system as a whole but understand it step by step, that is, only gradually. When Spinoza holds that in the unity of Nature everything is to be regarded as essentially the effect of some cause, it is a thesis of scientific optimism and an invitation to rational investigation. But what is very much unsatisfactory here is his metaphysical contention regarding the concept of causation. The very foundation of this concept is Spinoza's concept of substance, i.e. God from which everything follows with metaphysical necessity. But such a contention seems to be not so significant to us because this view of causality is erroneous; the error in question arises as a result of the confusion of two aspects, viz, the logical ground (ratio) and the real cause. Spinoza has compared the dependence of the effect on its cause to the dependence of a derivative principle on that from which it is derived. Not only he did this but also he fully equates the two. He thinks that logico-mathematical consequences are identical with the essence of real effects. Besides, only the temporal sequences found in the world system can be discovered through our observation, and the causality in the metaphysical sense is not available to us through observation, that is, on the basis of empirical data. But modern science and epistemology favour the investigation into the concept of causality on the basis of empirical facts.

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16. Joachim : *A Study of the Ethics of Spinoza*, p. 603.

In so far as the concept of causality is concerned, the standpoint of Leibnitz differs from those of Descartes and Spinoza, for he does not think that the world is a unitary whole which is simply deterministic in nature. Leibnitz holds that they have failed to distinghish between a clock and a cat or live body of a human being. For him, a clock is a mere collection of parts, whereas both the cat and the live human body are organisms. An organism is a being of a completely different kind; it has the capacity to initiate motion, to act purposefully, to react to stimule and to reproduce. But the special significance of what Leibnitz thinks here is that an organism is a unitary whole. though the parts of the body are physical;ly separated, yet they are still parts of the same organism. Consequently, Leibnitz holds that the fundamental units of nature are organisms as they alone can have true unity. Thus, he has sided with the vitalists whose understanding of nature is modelled on the purposeful, vital forces of living beings and who see life every where. This vital force is to be understood only in terms of the life principle striving for perfection. Hence Leibnitz's interpretation of causality involves the notion of teleology. Each unit as the subject of God's kingdom is contributing to the fulfilment of God's plan for the moral perfection of the universe. And this is the goal in life to raise each and every unit to the state which is as close as possible to the divine perspective. Leibnitz has interpreted God as the perfect clock-maker whose clocks (units) keep perfect time with each other to eternity, and do not need to be connected to each other or adjusted again as we find in Descartes' occassionalism.

Thus the concept of causality receives a very peculiar shape in the hand of Leibnitz. According to him, causality is one of the most basic well founded phenomena in his metaphysical system. It is to be attributed to monads, and the cosmic process, he holds, follows a teleology. "Leibnitz felt that no account of natural phenomena could be regarded as finally satisfactory unless it explained the reason as well as the mode of generation of such things. The leading motive, therefore, in his mind was the reconcilation of the mechanical and teleological views of the world."[17] So Leibnitz has replaced the inorganic corpuscles of science by "entelechies" or psychic forces and looked upon the mechanism of the cosmic process as the means and phenomenal form by which "the living content or import of the world realizes itself." This shows that Leibnitz is not ready to regard cause as a mere being or modification of such fundamental quality. If

17. Bhattacharya : Causality in Science and Philosophy, p. 56.

so, the cosmic change which is acquired in this way takes on the meaning of force. Consequently, the mechanical system of motions reveal itself as the external expression of an eternal creative force. Leibnitz holds that primal essences or forces which he calls monads constitute the whole of reality. These are infinite and each is windowless. It can neither influence nor be influenced by anything other than itself, yet at the same time each monad reflects the whole universe, and contains its whole past, present and future within itself. and inspite of their diversity act in perfect unison because of the law of pre-established harmony inforced by the Monad of monads(God). The world is the expression of the purposes of God. On this version each monad is separately "programmed" for the whole of its history. If so, then it may mean that there is no causal interaction. The only interactioin between monads arises in the reciprocal "perception" built into their mutual accord by pre-established harmony. The only thing monads can do in relation to one another is to perceive and to agree in their successive states. Rescher says, "In the system of Leibniz causality is definable strictly in terms of monadic perception - when two monads come to have a state of agreement that one in whose state this accord is inscribed more sharply, i.e., whose perceptions of the common transaction are clearer, is the active one, and the other the passive one in a strictly figurative" causal interaction. Leibniz writes : Thus action (or : activity) is to be attributed to a monad in so far as it has distinct perceptions, and possivity in so far as its perceptions are confused."[18] Leibnitz in his "Monadology, sect. 49 says that action or activity is, thus, to be attributed to a monad in so far as it has distinct perceptions, and passivity in so far as its perceptions are confused. However, in the correspondence with Arnauld this conception has been developed elaborately. He says, "This independence however does not prevent the inter - activity of substances among themselves, for, as all created substances are a continual production of the same sovereign Being according to the same designs and express the same universe or the same phenomena, they agree with one another exactly; and this enables us to say that one acts upon another because the one expresses more distinctly than the other the cause or reason for the changes..., "[19] The principle of sufficient reason has an important value in the context of Leibnitz's conception of causality. He formulates this principle of sufficient reason as the general demand of reason for explanation. Latta

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18. Rescher : *The Philosophy of Leibniz,* pp. 83-84
19. Ibid., p. 84.

in his *Leibniz* (p. 238) says that according to Leibnitz the efficient and the final cause combined make up apparently the sufficient reason. But he sometimes holds that the efficient causes are ultimately dependent on final causes. In explaining this position, Russell says, "But we shall find that there are really two principles included under the same name, the one general, and applying to all possible worlds, the other special, and applying only to the actual world. Both differ from the law of contradiction, by the fact that they apply specially - the former, however, not exclusively - to existents, possible on actual.The former, as we shall see, is a form of the law of causality, asserting all possible causes to be desires or appetites; the latter, on the other hand, is the assertion that all actual causation is determined by desire for good. The former we shall find to be metaphysically necessary, while the latter is contingent, and applies only to contingents."[20] The part of the principle of sufficient reason which is metaphysically necessary which applies equally to actual and possible contingents is the part which asserts all events due to design. The relation between cause and effect can not be a purely external one; the cause must be always in past a desire for the effect. This form of causality is the essence of activity which Leibnitz declares to be metaphysically necessary to substance. Now, if in the world of the "windowless" monads neither is influencing nor is influenced by one another, then where is there room for causal relation? Leibnitz holds that we attribute activity to that substance whose expression is the more distinct and we call it cause. Thus, when a body passes through water, there is an infinity of motions of the water. We say that this body is the cause of the motions, because by it means we can explain distinctly what happens while it is really inexplicable how the body can make ripples or motions in water unless God has ordained it. Thus, in the last analysis the agreement of all the phenomena of the various substances comes only from this, that they are all productions of one and the same cause, God, and consequently each individual substance expresses the resolution which God has taken with regard to the whole universe. Thus, in the last analysis the efficient cause is, at the same time, the final cause. Here Leibnitz quite consistently holds the freedom of the will, and it is not undetermined choice. We do not act merely because we must but because the internal nature of things makes it impossible to do otherwise. We act towards the end or ideal which is the best among various possible courses of action. Thus, our will is determined

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20. Russell : *A Critical Exposition Of The Philosophy Of Leibniz*, p. 30

not by a metaphysical necessity but by a moral necessity. This clearly shows that Leibnitz has tried to solve the problem in the manner of Aristotle. Thus, we see that the combination of cause with because in the sense of logical ground is not satisfactory. Logical reason reduces entailment or implication to timelessness, while cause is the tempooral antecedent of the effect. It becomes a because only in the sense that there is a motive or purpose in each monad.

We have thus faced some inevitable metaphysical problems in Spinoza's monistic conception of causality. But we do find some sort of different, though not radically, approach in the Hegelian concept of causality. Hegel accepts the view that the concept of cause contains energy, and a cause transmutes its energy in its product called effect. Now, ~~Hegal~~ Hegel contends that this idea of cause and effect gives rise to so many controversies because this way of interpreting the causality leads us to regard both cause and effect as two distinct and independent things, and this is our wrong supposition. If both cause and effect are independent, then when a cause produces an effect and transmutes its energy to its effect, it does so only by being impelled by some other cause which is alien to itself. Now this alien cause itself is, again, an effect that is obviously in need of another cause which is alien to it to be produced, and this process goes on ad infinitum. It is equally an undeniable fact that Hegel himself is well aware of this regress problem which is thus shown to be involved in the so called concept of causation. Under these circumstances Hegel rpoposes to admit one real cuase to combat the problem of infinite regress. He argues that the series of the cause effect relation can not go back indefinitely but must originate in a free and spontaneous First Cause whom he calls 'Begrift'. Now this First Cause, that is, Causa Sui in the Spinozistic term is not only self-active but also self-determining cause. The cause produces the effect and this process from cause to effect is the process of self-separation. In this process of self-separation the cause by itself is a self-activity which determines itself. This shows that in each and every causality or causal activity Hegel's Causa Sui exists as neshus. So the process from cause to effect is spontaneous and self determined; it is necessitated by the inherent nature of the Causa Sui. This happens because the substantiality presupposes this sort of spontaneous process of self-activity. Further, what is most important in the Hegelian concept of causation is that he does not speak of any distinction between cause and effect the distinction which is primarily

responsible for the rise of the problem of infinite regress. Findlay says, "In the treatment of Causality which follows, Hegel rather perversely emphasizes the *identity of content* between the Active Causality exhibited by one Accident and the merely Passive Consequence shown by another. An Effect, he holds, can by its notion contain *nothing* that is not contained in its cause, and vice versa." [21] According to him, the logical status of cause and effect is the same; a cause is both the subject and the object. Since the process from cause to effect is a self-determining process a cause is obviously a subject when it determines the effect, it becomes an object (effect) as it is determined. Now, Hegal speaks not only of the relation of sameness (or identity) between cause and effect but also of another relation which he calls the reciprocal relation. This standpoint shows the problem of causality that arises regarding the acceptability of the temporal factor in the relation. Findlay says, "This conclusion explains and justifies hegel's puzzling indifference to the temporarl aspect of Causality, an aspect generally thought to be of its essence. Within the limits of the single causal transaction the Cause is to all intents and pourposes contemporaneous with the Effect."[22] Now Hegel shifts himself from the notion of identity in causality to that of reciprocality. Findlay says, "From the notion of Causality Hegel now passes to the notion of Reciprocal Interaction (Wechselwirkung), the third member of Kant's famous trio of the categories of 'Relation'. We are no longer to think in terms of a single substance of whose nature changing states are the evitable outflow, nor in terms of substances, and exerting on each other an endless interchange of influence. We are to think rather of substances as *conspiring* together to move in a common direction and to contribute to a joint result. This notion, with its total symmetry, brings out what is only implicitly present in the seemingly asymmetrical notion of Cause and Effect".[23] A determines B to determine A again, or in short, A determines itself through B, and B determines itself through A. This sort of interpretation of the concept of causality does indicate all along that Hegel is in favour of the logical strictness between cause and its effect, and has, thus tried to solve the causal problem equally by an appeal to the metaphysical necessity originating in the Causa Sui. Consequently, the very same style of thinking that we found out earlier in the Spinozestic concept of causality reappears in the Hegelian interpretation. B.K. Bhattacharya says, "Hegel emphasises the distinction between "the end or final cause

21. Findlay: *Hegel: A Re-Examination*, p. 216.
22. Ibid. p. 218.
23. Ibid. p. 218

and the mere efficient cause (which is the cause ordinarily so called)". Causes properly so-called belong to the sphere of necessity, "blind and yet not laid bare". He does not throw any light on the problem of causation which worried Hume and Kant. In his view the cause is at once a ground and an end so that the causal relation is both purposive and necessary. He delights in paradoxical explanations, but the element of teleology really melts away at the touch of necessity which is logical and timeless. Indeed his views when rendered strictly consistent become a restatement of Spinoza's and it is useless to spend further time over the discussion of his treatment of causality."[24] If so, we should not hesitate to say that the problem which was focussed in connection with the Spinozistic notion of causality arises here again in Hegel's treatment of the concept.

Bradley in his treatment of the concept of causality seems to have taken a step forward than Hegel. We have seen that Hegel's analysis of the concept of causality has led to the discovery of the infinite regress vitiating the so-called notion of causality. According to Hegel, the cause which produces an effect is itself an effect which is produced here by its alien cause. Now this alien cause itself is an effect of some further alien cause which is again an effect of some other alien cause, thus leading inevitably to the infinite regress. This happens only when the cause and the effect are regarded as two independent existents. The relation in this case is not possible to be established. Consequently, Hegel has tended to identify these two concepts, and bounded them with the metaphysical necessity originating in the notion of 'Causa Sui'. But Bradley points out that here also a problem crops up immediately after when Hegel identifies the cause and effect. Acdcording to Bradley, if it is said that the cause and the effect are only identical, then it is obviously meaningless to introduce a distinction between cause and effect and use the different names. Therefore, the relation between cause and effect is such that the attempt to prove it immediately involves a self-contradiction. We cannot escape ourselves from this puzzling situation, and we have to go for either of these two horns, but in any of these cases the problem appears to be insurmountable. It is because of these problems that Bradley has tried to provide a consistent account of the concept of causality. To him, the cause is, no doubt, the invariable antecedent to the effect and the effect always succeeds the cause. This is a law of such a sequence of phenomena, the law which we accept universally. Therefore, it is obvious that the

24. Bhattacharya : *Causality in Science and Philosophy*, pp. 146-147.

cause is to be regarded as the invariable antecedent in this law of sequence. Here Bradley means by the word 'invariable antecedent' not any 'unvaried event'. An event is said to be unvaried when we see that throughout a collection of instances it happened in time before the happening of something else. The antecedent cause in Bradley's terminology is not to be understood in this sense of an unvaried event. On the contrary, he means by the invariable antecedent the hypothetical datum out of which there comes a necessary consequence. Thus, the cause is certainly the invariable event but it is that to which, supposing that if happens, something else will succeed necessarily. To express it more logically, Bradley has identified 'cause' with 'because' or 'reason'. Thus, when it is said that 'A causes B', thereby we mean to say that 'A' is the 'because' or 'reason for the happening of 'B'.

Now, Bradley has further discussed the problem of identity of cause with because or reason, and divided the question regarding the identity into the following way : (a) Is the cause a because ? and (b) Is every because a cause? In so far as the first question is taken into consideration we see that it receives a positive answer. It is Bradley's argument that a cause is identical with reason or because which is the ground of effect as the premise is the ground or reason for the conclusion. In any inference we depend on the reasoning process of arriving at a conclusion from the premise. In the same way, we get the idea of the cause on the basis of the reasoning process, that is, on the basis of connecting the cause and the effect by reason, and as such this relation is rational. Here Bradley has tried to make explicit two aspects of the concept of causality. In the first place, the causality is not mere a constant conjunction which we find in the case of the sequence of events. He holds that there is a principle in such a succession. This is nothing but the connection between the cause and the effect like the causal connectioin which we find in this situation as 'A is the cause of B'. In the causal incident or occurrence like the above, we do not get the relation through the senses. Rather, we see complex situation, and then single out the relation from it, we get this causal relation only on the basis of intellectual abstraction from the particular complex facts. In the second place, the cause, the effect and their relation are not phenomena existing objectively in the outside world. On the contrary, they exist in our idea of the universal law (e.g. in 'A is the cause of b') and hypothetical inference or hypothetical assumption. This is because to know the law of causation is to know the

consequence of a reasoning by abstraction from a complex causal situation. When we say that 'fire is the cause of burning', we, according to Bradley, mean to say that 'fire' is the 'reason' or 'because' for burning, and we connect the two by means of reasoning or inference. In so far as the relation between premise and its conclusion of which an inference is composed is a logical relation, so also the relation between cause and effect is a logical one, and hence, this relation is necessary. Bradley says that 'to recognize a succession as a causal sequence means to perceive the facts as a presented law. And to see the law in the facts is to unite the facts by an ideal principle, and this is to reason. In other words, to say this phenomenon B was the effect of A, implies the perception of an ideal connection between A and B. But to know by means of ideal connection is to know that the fact a result of that connection. And this must be inference. It may be latent and unconscious, yet still it is there. The mere conjunction has become a connection, felt as such. And this conjunction is now used with other conjunctions. But, if so, the facts are united in my mind because of an universal'. Thus, the very idea of causation is to be regarded as the process of abstraction from the experience of the particular facts, and hence it is our mental construction or ideal construction. This shows that nothing exists in the actual world like causation as such but only with reference to the ideal or mental construction,a nd Bradley calls it also an intellectual construction.

Now, in so far as the second question is concerned. Bradley does not accept that every 'because' is a cause, and the reason which he thinks is that the cause and the because cannot be regarded as the same sort of specific background. In this connection, what he wants to state is that whenever the premise represents a reality in time, which has actually its own necessity, goes into a construction - whenever that construction is real, and the quality or relation, that appears in the conclusion, is its immediate result - in these cases and in these cases alone the because and the cause must be identical. While the difference between them arises when we go under arbitrary choice, and hence, 'because' is not always the 'cause' in our reasoning process. But in the sense of the identity of 'because' and 'cause' as we have already mentioned above, the process of achieving a conclusion is the same as the process of connecting the cause and the effect. In the first case, we infer the conclusion from the given premise. In the second case, we infer the causal relation from the given particular event,

and it achieves the universality on its basis . Thus Bradley is not concerned with the physical aspect of causality ; cause and effect have, as we found earlier, no ultimate existence in the physical or objective world. What we have seen is that they are our mental constructions or ideal in nature, and as such they are non-physical or appearances. Then the question arises as to why this causation is required. To this, bradley's reply is that we are in need of causation in order to provide a rational explanation of the changes in the phenomena. Bradley holds that causation is only the explanation of change, and bases this sort of causal explanation on the act of natioinal thought as already explained. One thing should be kept in our mind that we know something about such causation on the basis of reason but we never understand the entire process of change or acausation. Bradley says, "There must, in other words, be a reason for the 'change'. But the endeavour to find a satisfactory reason is fruitless".[25] This account of causation as put forward by Bradley seems to be not different in any important respect from the ordinary on common sense view of the concept. The commonsense view is based on the reports of sense-perception, and maintains the idea of causality is derived from perception. In our experience we see directly that butter when placed before the fire surely melts, and also know that this causal relation between 'fire' and 'melting of butter' is a universal and necessary relation. But one more important thing deserves to be mentioned here that Bradley, though he has based his causation an experience, cannot be regarded as an empiricist philosopher because he argues that causation is equivalent to reason. Therefore, his theory of causation is thus connected with what is called rationalism; it is rather factually based rational system. This is because we gather facts on the basis of experience, and then unite and systemise them logically, that is, by reason.

Bosanquet is a follower of Bradley and, therefore, he has not been able to be free from the influence of Bradley's thought. According to Bosanquet, cause and effect are not independent events in time, and , therefore, the cause is not to be regarded as the antecedent in time. On the contrary, they are identical and this is a thesis which Bosanquet has established in his philosophy. He has tried to interpret this by reference to the hypothetical judgement. According to this standpoint, the cause is the antecedent just like the antecedent of a hypothetical judgement. In a hypothetical

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25. Bradley : *Appearance and Reality*, p. 46.

judgement when the antecedent is given, the consequence follows necessarily and logically. In the same way, the antecedent cause in the causality is such a hypothetical datum that when the antecedent cause is given, its consequence follows necessarily. Consequently, Bosanquet, like Bradley, has also equated 'cause' with 'reason'. When we say that 'A is the cause of B', it means thereby that 'A' is the 'reason' for the happening of 'B'. He refers to Mill's interpretation of causality. According to him, Mill has defined cause as the antecedent condition in time and is the prior to the effect. But this attitude leads to the Fallacy of the plurality of causes. In that case, we cannot say, for example, "Pull the trigger - cause - and the gun goes off - effect. This will imply that the cause is a system of all the conditions related to the effect. Again only the essential and invariable conditions enter into the cause if the cause is invariable as it is claimed by Hume. But it results in Paradoxical situation because nothing save the gun powder can be regarded as essential to the effect. The implication is that this essential antecedent is less than any combination of real " Things" which produce the effect. Bosanquet says "*So, if the cause means something real*, as a material object is real, it cannot be invariable and essential. If it is not something real, and is essential, it fires down into a reason or law - the antecedent in a hypothetical judgment".[28] According to Bosanquet, problem can be solved by equating both cause and reason with the complete ground which is the nature of a system of reality where causation is operating. Bosanquet says, "We can only escape this by identifying both cause and reason with the complete ground, that is, the nature of a system of reality within which the cause and effect both lie ; But even then, though the ground is *real,* it is not antecedent in time."[27] In this connection, he says, "Reality being a system of reciprocally determining parts, every part or feature of reality may be regarded as a consequent to which some other part or parts, or ultimately the whole, stands as ground. Every consequent, this law tells us, has a ground from which it necessarily follows. Necessity indeed means nothing but the inevitableness of the consequent when the ground is given".[28] Thus, the cause and the effect are not the isolated events, rather the relation between the two is necessary or logical. But this sort of necessity is only ex-hypothese conditional; the necessity which is rooted in a ground is a fact. So this necessity is only a sort of real necessity and never an absolute necessity. But this does not imply that the world has

26. Bosanquet : *The Essentials of Logic,* p. 165.
27. Ibid., p. 165.
28. Bosanquet : *Logic or Morphology of Knowledge,* p. 215.

lost its rational coherence. As Bosanquet says in his *The Essentials of Logic* (pp. 164-66) that the cause and the effect are not isolated events, rather it is a rational system of nature. In this system the cause takes place and the cause includes the effect. We understand this only by means of intelligence. He says," "The universe is a rational system", taking rational to mean not only of such a nature that it can be known by intelligence, but further of such a nature that it can be known and handled by *our* intelligence."[29] Here also we find the tendency in Bosanquet to equate objective necessity in the causality with the rational one and thus convert it into that which is nothing but mental construction as we find in Bradley. But the causal relation is not like the relation between a premise and its conclusion, the sort of relation which we establish rationally or logically. This is really an issue which has disturbed many philosophers from the very beginning of the treatment of causality. This is because one proposition in this case entails or implies another proposition such that the assurance of the truth of the former warrants equal assurance of the truth of the latter. Aristotle himself also feels this problem that the premise as a logical reason is without any causal efficacy. Since this entailment is a relation whose relata are abstract items, he does not even imagine that the premise *causes* the conclusion. Consequently, he finds that its defense is Otiose. Obviously, the real objective cause or ground is different from the logical ground, and so the relation of dependence between cause and its effect is certainly different from the logical dependence which we find between a premise and its conclusion. It seems to us that Bosanquet has made a mistake by identifying the real cause with the logical ground, the mistake that we have found in the spinozistic theory of causality. Thus, the rationalist approach in handling the problem of causality inevitably leads to the impossibility of making a compromise between the rational or logical necessity and the objective necessity in the causation. If we , like the rationalists, stick to the sort of logical interpretation of causation, then cause and effect and also the relation between them have their seat only in our mind or reason. But rational connection and physical causation form two distinct kinds of knowledge the former yields necessary truth that justifies itself by its inevitableness for thought, while the other gives us contingent truth which can be ascertained only empirically.

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29. Bosanquet : *The Essentials of Logic*, p. 166.