Chapter II

THE CONCEPTS OF *KĀRAṆA* AND *KĀRYA* IN INDIAN LOGIC. THE VARIOUS FORMS OF CAUSE AND THEIR PHILOSOPHICAL SIGNIFICANCE.

Let us consider the nature of *kāraṇa* and *kārya* or cause and effect from the Indian standpoint with special reference to the Cārvākas, Buddhism, Mīmāṁsā and Naiyāyikas.

According to the Cārvākas, there is no reason to suppose that every event must have certain cause. Actually, what we perceive in this world are certain objects, such as pot, cloth, thread etc. We do not perceive any effect or any cause. In this world, we perceive the stream of objects. There is no causal connection among these objects. For them, an effect is produced accidentally. That is, production of an effect means its sudden appearance. Effects are produced at any time without depending on definite causes. An effect does not depend on any cause, but suddenly comes into being. Accidentalism believes in spontaneous generation of an event. According to this theory, effects like pointedness of thorns and the like are produced without any cause. It is no argument to say that our reasoning is not satisfied without determining the causal relation among objects or without naming the events as cause and effect. It is also no argument to say that without using the terms 'cause', 'effect', language would not be applied because

there is a possibility to construct a language without involving the terms, 'cause', 'effect'. etc.All these suggust that there is no causal connection among the objects in the world.

Now to this view, the Naiyāyikas raise a question. What is meant by the term 'accident' (*akasmāt*)? This term may signify different meanings : (1) an effect is not caused from its antecedent event; (2) an effect is produced out of nothing; (3) an effect is produced out of itself; (4) an effect is produced accidentally out of an event which is *asat* like hare's horn; or, (5) an effect is produced accidentally out of its own nature.

In the first alternative, according to the Naiyāyikas, *kāraṇatva* of effect is clearly denied. In the second alternative, since the production of effect is denied, so the existence of cause also is denied. In a word, these two alternatives, taken together, suggest *akāraṇatva* of effect. The third and the fourth alternative suggest the *alīkahetukatva* of effect in the practical world ; it is not possible for an effect to be produced out of itself or out of an event which is *asat* like hare's horn. If we analyse the fifth alternative, we find that here the Cārvākas want to mean that an effect is produced accidentally out of its own nature. The Cārvākas do not accept effect as *kādācitka* (*kādācitka* means that which exists at one time and not at other time). If they accept it, they cannot accept any of the above-mentioned five alternatives because that which is

kādācitka cannot be said to possess any of the above qualities. "The relation between *kādācitkatva* and *ahetukatva* etc. is contradictory. Hence, to say that an effect is *kādācitka* is to accept that it is *svakāraṇa* ;that is, it must have certain cause".[1]

According to Buddhistic philosophy, causality is not real production. It is only functional interdependence. The cause does not produce the effect. It has not time to do so. The cause only precedes the effect and the effect merely follows the cause. Existence is efficiency and efficiency itself is the cause. Things arise neither out of self nor out of not self nor out of both nor out of neither. They are not produced at all. The effects are merely functionally dependent upon their causes. The seeming contradiction that Reality is efficiency and that all elements are inactive is solved by the fact that there is no efficiency over and above existence, that existence itself is causal efficiency (*sattaiva vyāpṛtiḥ*)

Now to this view, the Naiyāyikas say that the Buddhists had upset all common sense convictions of cause and effect on the ground that all collocations are momentary; each group of collocations exhausts itself in giving rise to another group and that to another and so on. But if a collocation representing milk generates the collocation of curd, it is said to be due to a joint action of the elements forming the cause - collocation and the modus operandi is unintelligible; the elements

composing the cause-collocation cannot seperately generate the elements composing the effect-collocation, for on such a supposition, it becomes hard to maintain the doctrine of momentariness as the individual and separate exereise of influence on the part of the cause-element and their co-ordination and manifestation as effect cannot but take more than one moment. The supposition that the whole of the effect collocation is the result of the joint action of the elements of cause-collocation is against our universal uncontradicted experience that specific elements constituting the cause (e.g. the whiteness of milk) are the cause of other corresponding elements of the effect (e.g, the whiteness of curd); and we could not say that the hardness, blackness, and other properties of the atoms of iron in a lump state should not be regarded as the cause of similar qualities in the iron ball, for this is against the testimony of experience. Moreover there would be no difference between material (*upadāna*, e.g.clay of jug), instrumental and concomitant causes (*nimitta* and *sahakārī*, such as the potter, and the wheel, the stick etc. in forming the jug), for the causes jointly produce the effect, and there was no room for distinguishing the material and the instrumental causes, as such.

Again at the very moment in which a cause collocation is brought into being, it cannot exert its influence to produce its

effect-collocation. Thus after coming into being it would take the cause collocation at least another moment to exercise its influence to produce the effect. How can the thing which is destroyed the moment after it is born produce any effect? The truth is that causal elements remain and when they are properly collocated the effect is produced. Ordinary experience also shows that we perceive things as existing from a past time. The past time is perceived by us as past, the present as present and the future as future and things are perceived as existing from a past time onwards.

According to the Naiyāyikas, the Sāṁkhya assumption that effects are but the actualized states of the potential cause, and that the causal entity holds within it all the future series of effects, and that thus the effect is already existent even before the causal movement for the production of the effect, is also baseless. Sāṁkhya says that the oil was already existent in the sesamum and not in the stone, and that it is thus that oil can be got from sesamum and not from the stone. The action of the instrumental cause with them consists only in actualizing or manifesting what was already existent in a potential form in the cause. This is all nonsense. A lump of clay is called the cause and the jug the effect ; of what good is it to say that the jug exists in the clay since with clay we can never carry water? A jug is made out of clay, but clay is not a jug. What is meant

by saying that the jug was unmanifested or was in a potential state before, and that it has now become manifest or actual? What does potential state mean? The potential state of the jug is not the same as its actual state ; thus the actual state of the jug must be admitted as non-existent before. If it is meant that the jug is made up of the same parts (the atoms) of which the clay is made up, of course we admit it, but this does not mean that the jug was existent in the atoms of the lump of clay. The potency inherent in the clay by virtue of which it can expose itself to the influence of other agents, such as the potter, for being transformed into a jug is not the same as the effect, the jug. Had it been so, then we should rather have said that the jug came out of the jug.

In connection with the question of causation the Mīmāṁsā formulates the theory of potential energy (*śakti)*. A seed possesses in it an imperceptible power (*śakti*) with the help of which it can produce the sprout; when this power is obstructed or destroyed (as, for example, by the frying of the seed), it fails to produce that effect. The necessity of admitting such unperceived potency in the cause is that it explains why in some cases though the cause (i.e.seed) is there, the effect (i.e.sprout) does not come into being . The explanation is that in such cases though the cause-substance is there, its causal potency has been destroyed or over-powered temporarily, as

the case may be, by some obstructing conditions obtaining there.

To this, the Nyāya objects that this is neither a matter of observation nor of legitimate hypothesis, for there is no reason to suppose that there is any transcendental operation in causal movement as this can be satisfactorily explained by molecular movement. There is nothing except the invariable time-relation (antecedence and sequence) between the cause and the effect, but the mere invariability of an antecedent does not suffice to make it the cause of what succeeds; it must be an unconditional antecedent as well ; (*anyathāsiddhiśūṇyasya niyatā pūrvavarttitā*). Unconditionality and invariability are indispensable for *kāryakāraṇa-bhāva* relation or cause and effect relation. For example, the non-essential or adventitions accompaniments of an invariable antecedent may also be invariable antecedents; but they are not unconditional , only collateral or indirect. In other words their antecedence is conditional upon something else *(na svātantryeṇa)*. The potter's stick is an unconditional invariable antecedent of the jar ; but the colour of a stick or its texure or size, or any other accompaniment which does not contribute to the work done, is not an unconditional antecedent, and must not therefore be regarded as a cause.

After explaining the inconsistencies of the analysis of

the nature of cause and effect of different Indian systems, the Naiyāyikas give us an analysis of the nature of cause and effect from their own standpoint.

According to them, it can be said that in this natural world, certain composite objects such as pot, cloth, tree etc. are produced at a certain time. They are also destroyed after sometime. That which is produced cannot be said to exist prior to its production. These objects are called effects. They exist for sometime and not forever. A pot, for example, exists at certain time and does not exist at another time. Such type of object is called *kādācitka* because it exists at one time and not at other time. So an effect is that which is *sat* after its production and prior to its destruction. An effect is called *sāpekṣa* in the sense that it depends on its cause. It is not *nirapekṣa*. That which does not depend on any thing must be said to exist forever; for example, *ākāśā* ; it does not depend on anything. Effect which is *asat* like hare's horn does not depend for anything because it does not exist at any time. Like wise, if effect was *sat* and at the same time *nirapekṣa*, it would have existence forever. And if it was *asat*, it would not have existence at any time. But neither of the alternatives is true regarding effect. An effect exists at one time and does not at other time. This is why, it cannot be said to be *nirapekṣa*. It depends on something which is not other than the cause.

An effect, a piece of cloth, for example, is called *kādācitka*, since it exists for sometime and does not exist at other time. It waits for its cause, namely, threads. If it does not wait for its cause, then it could have existed eternally. But effect is not eternal since it exists for sometime and does not exist at other time. A *kādācitka* effect is always *sahetuka*, that is having some cause. An effect being *kādācitka* is non eternal. So its cause cannot be said to be eternal. Now, to regard the cause as *kādācitka* is to hold that it is occasional, existing at sometime and not existing at some other time. We must then seek a second cause to account for the first. The second cause again cannot be eternal ; for in that case, its effect would have been eternal— a possibility which is negated through experience. Hence, the second cause is likewise non-eternal and inevitably reguires a third cause, which, for the same reason, requires in its turn a fourth, and so on ad infinitum. To this, Udayanācārya replies, "*Uktamaṇāditvāt eti vījāṅkuravat prāmāṇikī yamanavasthā na doṣāyetyarthaḥ*"[2]. That means, the causal sequence is like a stream and is indeed without a beginning (*anādi*). This involves, no doubt, *infinite regress*, like that of seed (*vīja)* and seedling (*aṁkura*) is not vicious but an acceptable (*prāmāṇikī*) one.

The Nyāya-Vaiśeṣika thinkers, define cause as "*anyathāsiddhiśūnyasya niyatā pūrvavartitā*".[3] By *anyath-*

āsiddhiśūnya, they mean an indispensable antecedent. Hence, that which is proved to be antecedent through another is not an indispensable antecedent. But what is meant by 'invariability'? An effect must have certain antecedent events but which of them is invariable ? An antecedent event is called invariable when it is immediately present before the production of an effect without fail ; for example, where there is smoke, there is fire. On the other hand, where there is no fire, there is no smoke. Hence, fire is invariable antecedent of smoke. Similarly, potter, earth are the invariable antecedents of pot.

According to the Naiyāyikas, it is not necessary to perceive all of the objects in order to say something about all of them. Taking the stock example, when, one infers the existence of smoke from fire, one relies on the condition of fire to smoke, since fire is attended with smoke on the condition of its being fire from "wet fuel". Here the condition "wet fuel" is alwalys related to smoke as there are cases of fire without "wet fuel". Hence, to eliminate the suspected conditions of an invariable relation between two things we must make repeated observations (*bhūyodarśana*) of agreement in presence and in absence under varying circumstances. It is clear therefore that the effect is that which is *kādācitka* and

the cause is that which is invariable antecedent of the event.

Gangeśa also defines a cause "as a necessary invariable antecedent which is synchronous and co-existent with it"[4], that is, with its effect. Now if we analyse the definition of cause given by the Naiyāyikas, we find certain characteristics of it. The first essential characteristic of them is that a cause is an antecedent ; that is, it precedes the effect (*pūrvavṛtti*). The second is its invariability; it must invariably precede the effect (*niyatapūrvavṛtti*). The third is its unconditionality or necessity ; it must unconditionally precede the effect (*anyathāsidha-śuṇya*). The Naiyāyika's definition reminds us Mill's definition of cause as an unconditional invariable antecedent. For Mill also, mere invariability of sequence cannot give rise to causal relation. We repeatedly observe a regular sequence between day and night, summer and winter in our experince. But we do not regard the one as the cause of the other. The truth is that they are co-effects. In other words, our experience of the invariable relation between day and night is conditional being dependent upon the rotation of the earth on its own axis. So, one cannot be the cause of the other. The cause must, therefore, be an unconditional besides being an invariable one. By unconditional antecedent Mill means only that group of conditions which, without any further condition, is sufficient to give rise to the effect. But how do we come by the

knowledge of unconditionality? The notion of unconditionality is, on Mill's view, derived from experience. But as our experience is finite and limited, we cannot hope to know that our experience is truly unconditional. For, what appears as unconditional now, may not be so in future. So the only way to determine the unconditionality and invariability of causal relation is to take resort to an intuitive perception of *sāmānyalakṣaṇa* type.

Nyāya recognises five kinds of invariable antecedents which are not real causes : (1) that which is antecedent to an effect by virtue of its relation to its inherent cause is accidental. The colour of stuff depends upon its inherent cause in order to be invariably followed by a jar. But it is not the real cause of a pot. (2) That which is known to be antecedent to an effect after it is known to be antecedent to some other effect as its cause is regarded as its unnecessary antecedent. Ether is already known to be an antecedent event of sound as its inherent cause. So it is an unnecessary antecedent of a jar, though it is its invariable antecedent, since it is not necessary for its production. A cause is determined by its presence and absence both— not by its presence only. Eternal and ubiquitous substances, which cannot be eliminated, are not real causes. (3) That antecedent, which is other than the invariable, necessary antecedent of an effect, is its unnecessary

antecedent. The prior non-existence of colour is an unnecessary antecedent of smell due to heating, since the prior non-existence of smell is its invariable, necessary antecedent or cause. (4) That which cannot be known to be antecedent to an effect without knowing its antecedence to its cause is its unnecessary antecedent. The cause of a cause is not the real cause of an effect, but its unnecessary antecedent. A potter is the efficient cause of a jar and hence, its invariable necessary antecedent. But the potter's father, who is a cause of the potter is an unnecessary antecedent, it is not the real cause of the effect, pot. A cause is not a remote antecedent, but an immediate antecedent of its effect. (5) That which is antecedent to the effect, together with a cause, is its unnecessary antecedent. A stuff is an auxiliary cause of a jar, whose presence is followed by its production, and whose absence is followed by its non-production. It is its necessary antecedent. But the generic character of stuff is not followed by the production of a jar independently of the stuff. Hence, it is its unnecessary antecedent. A cause is an unconditional, invariable, immediate antecedent of an effect.

The Nyāya regards a cause as an aggregate of indispensable, invariable and immediate antcedents. They are also regarded as positive conditions of an effect. When they are present, an effect is produced ; when they are absent, it is

not produced. There is no causal power in addition to them. Straw, fire and blowing taken together are the cause of burning, each of which singly is not its cause. But they are its positive conditions only, which can produce its effect when its negative conditions are absent. A fire-extinguishing gem is its negative condition which must be absent in order that burning may be produced. Just as the presence of the positive conditions is a cause so the absence of the negative conditions is a cause. The absence of any number of the aggregate of causal conditions— the principal cause and the auxiliary causes is the main counter acting cause.

The Nyāya rejects plurality of causes. The same cause produces the same effect, and the same effect is produced by the same cause. But sometimes we find that the same effect is produced by a variety of causes, for example, burning is produced by straw, fire and blowing together, or by two pieces of fire-wood and intense friction together, or by a fire exciting gem and concentration of the rays of the sun on it. The Nyāya argues that the specific causes produce specific effects which appear to be the same because they have special attendant consequences. If they are considered with their distinctive features, then specific effects have specific causes. If there is a specific difference in the causes, there must be a specific difference in the effects, even though they appear to be

homogeneous. If specific effects are not due to specific causes, the specific characters of effects will be uncaused. The specific differences in the effects are due to the specific differences in the auxiliary causes which produce different peculiarities in the same homogenous cause and diversity in it. A specific cause has a specific effect. "Diversity of effects require diversity of causes"[5]. The cause of a generic effect is regarded as generic. The generic character of fire is the effect of conjunction of a combustile substance with light ended with a particular degree of heat. Specific effects cannot be produced by a generic cause.

Along with an analysis of the nature of *kāraṇa* as an unconditional and invariable antecedent, the Naiyāyikas propose to undertake an analysis of the nature of *kārya* or effect. For they believe that a definition of *kāraṇa* or cause cannot be framed without any reference to the effect or *kārya*. As a matter of fact, 'cause' and 'effect' are correlative terms and as such a proper understanding of the concept of cause demands an enquiry into the nature of the effect. The only point of distinction between a cause and an effect is that while the cause precedes, the effect follows. Western philosophers, such as, Hume, Mill and others maintain only a temporal difference between the cause and the effect. The Naiyāyikas too insert the term *purvavṛtti* (antecedent) in their

definition of cause, and this they do to exclude the effect itself. But the Naiyāyikas attempt a definition of an effect as well. An effect is customarily defined as "an entity which is counter-correlative of its antecedent-non-existence (*Kāryaṁ prāgabhāva-pratiyogi*)." [6] To understand the technical expression involved in the definition, let us consider an example. A jar, for example, is an effect. For it comes into existence at particular point of time and was not before its emergence.To say that the jar was not there before it was produced is the same thing as saying that it has got its prior non-existence (*prāgabhāva*). If, on the otherhand, the effect does not exist prior to its origination, it must have a beginning (*ārambha*), it begins to exist when it is actually produced. Now, an effect having a beginning is contradictory (*pratiyogī*), to *prāgabhāva*. The word '*pratiyogī* ' is used in the context of negation. In this sense, a jar is said to be the *pratiyogī* of the absence of jar. That is why, a *pratiyogī* is regarded as the counter-correlative to its negation. *Prāgabhāva* has no beginning (*anādi*), though it has an end (*sānta*) as soon as the product comes into being. Thus we find that the antecedent non-existence of the effect in question is also regarded by the Naiyāyikas as a necessary part of causal mechinary. In the causal mechinary, the Naiyāyikas include several positive antecedents determined by *niyata-pūrvavṛttitva* and *ananyathāsiddhatva* and two negative

antecedents (*kārya-prāgabhāva and pratibandhakābhāva*) as essential. According to the Naiyāyikas, the cause must be free from any counter-acting influence in order to be able to produce the effect. Fire is said to be the cause of burning. But if fire be accompanied by a jewel known as *Candrakāntamaṇi*, it cannot produce burning. *Candrakāntamaṇi* then appears to be an obstacle to the production of the effect. But it is not a true *pratibandhaka*, since as if another jewel known as Sūryakāntamaṇi. Hence *pratibandhaka* or *siddhi* is defined as '*siṣādhayiṣā-viraha-sahakṛta-siddhi*'[7]. By '*siṣādhāyiṣā*', is meant the strong desire to infer serving as *uttejaka* (impetus) which inspite of the presence of an apparent obstacle gives rise to an effect. By '*viraha*' is meant absence. Hence, *siddhi* or *pratibandhaka* is characterised by the absence of *uttejaka*. The Naiyāyikas also try to give an analysis of the nature of cause and effect in respect of both property (*dharma*) and relation (*saṃbandha*). For them, the cause and the effect must co-reside in the same locus. This is called *sāmān-ādhikaraṇya*. This simply means that the cause and the effect must be co-present in the same locus (*tādādhikaraṇa* vṛttittve). Let us suppose, a jar is produced, its cause then must be present invariably and immediately before the effect in the same locus. The cause and the effect must therefore stand in some definite relation to the locus. The cause is limited by the property of causeness ; *kapāla*, that is, the components of the jar is limited

by the property of *kapālatva*. Similarly, the effect is limited by the property of effectness (*kāryatāvaccehedaka*) ; jar is limited by the property of jarness. Now, the jar characterised by jarness resides in the *kapāla* which is its locus and the relation between the jar and its parts, that is, *kapāla* remains in its lower half through *samavāya or inherence*.

Here the jar is determined both by a property and by a relation. On the otherhand, the *kapāla* which is the cause of the jar, characterised by the property of *kapālatva* resides in the *kapāla* where the jar is present in the relation of inherence ; but the relation of *kapāla* to itself is one of identity (*tād-ātmya*). Hence, both the cause and the effect are determined by a property and a relation.

According to the Naiyāyikas, the relation between the cause and the effect is reciprocal and this relation is called *nirūpya-nirūpaka-bhāva saṃbandha*. A cause determines, and is determined by, the effect. Hence each is both *nirūpaka* i.e. determinater and *nirūpya* i.e. determined of the other. Thus we have *kāryatānirūpita kāraṇatā* (where the effect is the *nirūpaka* and the cause is nirūpya) and *kāraṇatānirūpita kāryatā* (Where the cause is the *nirūpaka* of the effect which is *nirūpya*). In either case, the cause and the effect must co-reside in the same locus (*adhikaraṇa*). Here we must note that the *kāryatāvacchedaka* as well as the *kāraṇat-*

āvacchedaka saṃbandha in the case of *samavāyī kāraṇa* would be *samavāya* and *tādātmya* respectively. But in the case of *asamavāyī kāraṇa*, however, the relation is different. When, for example, the conjunction of potsherds (*kapāla saṁyoga*) is regarded as the *asamavāyī kāraṇa* of the jar, both the *kāryatāvacchedaka* and *kāraṇatāvacchedaka saṃbandha* would be *samavāya*. The jar stands in the relation of *samavāya* to the *kapāla* where saṁyoga (conjunction) stands in the same relation.When, however, *kapālarūpa* (the colour of the potsherds) is regarded as the *asamavāyī kāraṇa* of the *ghaṭarūpa* (the colour of the jar), the *kāryat-āvacchedaka saṃbandha* will be *samavāya* whereas the *kāraṇatāvacchedaka saṃbandha* will be *svasamavayisam-avāya*. The colour of the jar is inherent (*samaveta*) in the jar and as such the relation between them is *samavāya* ; but the colour of potsherds (*kapālarūpa*) is inherent in the potsherds where the jar is also inherent. Here the relation is *svasamav-āyi-samavāya*. The *ghaṭa* is *samaveta* in *kapāla* where the *rūpa* is present in *samavāya* relation. In short, in the case of *asamavāyī kāraṇa* we have two types of *pratyāsatti* in the *samavāyī kāraṇa* ; *kāryaikārtha pratyāsatti* (co-presence in the same locus with the effect) *kāraṇaikārtha pratyāsatti* (co-presence in the same locus with the cause). In the former case, both the *kāryatāvaechedaka* and the *kāraṇat-āvacehedaka saṃbandha* are *samavāya saṃbandha* whereas

in the latter case the *kāraṇatāvacchedaka saṃbandha* would be *svasamvayisamavāya* although the *kāryatāvacehedaka saṃbandha* is *samavāya*. In the case of stick (*daṇḍa*) as the *nimitta kāraṇa* of *ghaṭa* the relation is indeed conceived in a different way. According to the *Naiyāyikas*, here the relation is *svajanyabhrami-janyatva-saṃbandha*. The stick produces relation in the axle (*cakra)* which in its turn produces the jar. So we see that the *Naiyāyikas* want to analyse both the cause and the effect in respect of property and relation alike. But we do not find such a thorough analysis of either cause and effect in Western philosophy.

THE VARIOUS FORMS OF CAUSE AND THEIR PHILOSOPHICAL SIGNIFICANCE

The Naiyāyikas admit three kinds of causes - *samavāyi, asamavāyi* and *nimitta*. The first is the *samavāyi* or the inherent cause.It is the substance out of which the effect is produced. For example, the threads are the inherent cause of a cloth and the clay is the inherent cause of a pot. The effect inheres in its material cause. The cloth inheres in the threads. The effect cannot exist separately from its material cause, though the cause can exist independently of its effect. The material cause always is a substance (*dravya*).

The second kind of cause is *asamavāyi* or non-inherent. It inheres in the material cause and helps the production of the effect. The conjunction of the threads (tantusaṁyoga) which inheres in the threads is the non-inherent cause of the cloth of which the threads are material or the inherent cause. The colour of the threads *(tanturūpa)* is the non-inherent cause of the colour of the cloth. The cloth itself is the inherent cause of its colour. The colour of the clay which exists in the clay in inseparable relation is the cause of the colour of the pot. This colour of the clay is thus called the *asamavāyi* cause of the pot. Any quality (*guṇa)* or movement which existing in the *samavāya* cause in the *samavāya* relation determines the characleristics of the effect is called the *asamavāyi-kāraṇa.*

The third kind of cause, according to the Naiyāyikas, is *nimitta* or efficient. It is the power which helps the material cause to produce the effect. The weaver is the efficient cause of the cloth. The efficient cause includes the accessories (*sahakārī*), for example, the loom and shuttle of the weaver or the stuff and wheel of the potter. The efficient cause may be a substance, a quality or an action.

Aristotle also admits four kinds of causes; material, formal, efficient and final causes. For him, "In every case of the existence or production of a thing, all four causes operate simultaneously. Moreover, the same four causes are to be found both in human and in cosmic production, in the making of manufactured articles by man and in the production of things by nature."[8] "The material cause of a thing is the matter out of which it is composed. It is the raw material which becomes the thing."[9] For example, in making of a bronze statue, the bronze is the material cause of the statue.

The efficient cause is always defined by Aristole as the cause of motion. It is the energy or moving force required to bring about change. It must be remembered that by motion, Aristotle means not only change of place but change of any sort. The alteration of a leaf from green to yellow is just as much motion, in his sense, as the falling of a stone. The efficient cause, then, is the cause of all change. In the example

taken, what causes the bronze to become a statue, what produces this change, is the sculptor. He is, therefore, the efficient cause of the statue. "The formal cause, Aristotle defines as the substance and essence of the thing." [10]

And "the final cause is the end, purpose, or aim towards which the movement is directed. When a statue is being produced, the end of this activity, what the sculptor aims at, is the completed statue itself. And the final cause of a thing in general, is the thing itself, the completed being of the object." [11]

We find that Aristotle's conception of causation is much wider than the modern conception.

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