

J.L. SHAW

CAUSALITY: SĀMĀKHYA, BAUDDHA AND NYĀYA*

INTRODUCTION

Causality, in the context of Indian Philosophy, plays an important role not only in metaphysics, but also in epistemology, ethics, and all other branches of philosophy. It is presupposed in the discussion of almost any topic in philosophy. It is also used to define different sources of valid cognition, such as perception, inference, comparison, testimony, etc.

The nature of ultimate reality is also dependent on a particular conception of causality. It is also used to determine the relationship between the different goals of life such as righteous activity (*dharma*), worldly possession (*artha*), pleasure (*kāma*), and liberation (*mokṣa*).

In this paper I would like to discuss the following questions, amongst many others, from the standpoint of the Sāṃkhya, the Bauddha and the Nyāya philosophical systems of Indian philosophy:

- Whether the cause or the material cause (*upādāna kāraṇa*) contains the effect in any form prior to its production,
- Whether causality (*kāraṇatva*) can be defined in terms of efficacy or productivity (*artha-kriyākāritva*),
- How to define and classify causal conditions (*kāraṇas*),
- Whether the terms 'effect', 'event' and 'action' refer to the same thing or have the same meaning.

In the first section I shall discuss the first question with reference to the controversy between the Sāṃkhya and the Nyāya-Vaiśeṣika philosophers. The second question will be discussed in the second section with reference to the views of the Bauddha philosophers. The remaining questions will be discussed in the third section with reference

* On 27 January 2001, the 3rd Matilal Memorial Conference on Indian Philosophy was held at King's College, London. The following paper was a keynote address to this conference and is dedicated to the memory of my teacher Professor B.K. Matilal. He was not only a great scholar but also a great organizer and the founding editor of the *Journal of Indian Philosophy*. Since he was a source of inspiration to the scholars of Indian and Comparative Philosophy, he will always be remembered with deep gratitude and admiration.

to the views of the Nyāya philosophers. The fourth section will deal with the application of causality to certain epistemological issues from the Nyāya point of view. In the fifth section I shall point out that the different schools of Indian philosophy have focused on different aspects of causality.

SECTION I

The followers of the Nyāya-Vaiśeṣika and the Mīmāṃsā claim that there is an absolute difference (*atyanta-bheda*) between the cause and the effect. The effect cannot be said to be identical with its material cause (*upādāna kāraṇa*). In this context it is to be noted that the *upādāna kāraṇa* (material cause) of the Sāṃkhya philosophers is not the same as the *samavāyī kāraṇa* (inherent cause) of the Nyāya. According to the Nyāya an effect resides or inheres in its *samavāyī kāraṇa* (inherent cause). Hence the latter exists as long as the effect exists. When milk is transformed into yoghurt, the milk does not exist. Hence the milk cannot be considered as the inherent cause of the yoghurt. When milk is transformed into yoghurt, there are chemical changes in the ultimate parts or the atoms of the milk. Therefore, the transformed atoms of the milk are in the yoghurt. Since the yoghurt resides in the parts by the relation of inherence, the latter would be the inherent cause according to the Nyāya. But the Sāṃkhya philosophers consider milk as the material cause, and the effect in its subtle form resides in its material cause. In other words, the effect in its unmanifest (*avyakta*) form is present in its material cause. Hence the sprout in its unmanifest form is also present in the seed. Similar is the case with oil or any other effect. But according to the Nyāya philosophers an effect is not present in its cause or set of causes in any form. Moreover, milk is not the inherent cause but an instrumental cause of yoghurt. Similarly, the seed is the instrumental cause of the sprout and the oil seed is the instrumental cause of oil. From this difference between these two systems one should not conclude that the material cause of the Sāṃkhya is always different from the inherent cause of the Nyāya. For example, a pot resides in its parts which are inherent causal conditions of the Nyāya, but they are material causes of the Sāṃkhya. Similarly, the threads of a piece of cloth are inherent causes of the Nyāya, but the material causes of the Sāṃkhya. Hence these two types of condition are not totally different.

From the above remark it follows that according to the Nyāya the causal conditions do not contain the effect in any form prior to its production. Similarly, when a pot is destroyed or ceases to exist, the

parts of the pot do not have the pot even in its subtle form. The theory of the Nyāya-Vaiśeṣika and the Mīmāṃsā philosophers is known as *asatkāryavāda* (the doctrine that the effect is non-existent prior to its production).

The Sāṃkhya philosophers claim that the effect in its subtle form is present in the cause or the set of causal conditions. In other words, the effect in its essence is not different (*abheda*) from its cause or causal conditions. In the Sāṃkhya philosophy, the word 'production' does not mean 'creation of a totally new object'. Similarly, 'destruction' does not mean 'total cessation of an object'. Everything is a manifestation of Nature called '*prakṛti*'. Instead of the word 'production' or 'creation' the Sāṃkhya philosophers use the expression 'manifestation' or 'appearance'. Similarly, instead of 'destruction' or 'cessation' they prefer the word 'disappearance'. No one denies that causality involves change, but the Sāṃkhya philosophers interpret change as a state from unmanifest to manifest or from manifest to unmanifest. Īśvarakṛṣṇa in his Sāṃkhyakārikā has put forward five arguments in favour of the view that the effect is real or exists (*sat*) in some form even before its production. Hence the word 'appearance' is more appropriate than 'creation'. Let us discuss these arguments of the Sāṃkhya philosophers.

It is claimed that what is unreal cannot be subject to causal operation (*kāraṇavyāpāra*), or cannot be produced by a set of causal conditions. If something is unreal, then nothing can produce it. For this reason the horn of a hare and the son of a barren woman are treated as unreal. An effect is not unreal in this sense. It is related to a particular cause or set of causal conditions. For this reason milk is transformed into yoghurt, a sprout comes out of a seed, oil can be extracted from oil seeds, a building can be constructed out of bricks, mortar, etc. All the five arguments of the Sāṃkhya philosophers have the form *modus tollens*. Hence by using the rules of *modus tollens* and double negation they have tried to establish the existence of the effect prior to its production.

1. The first argument may be stated in the following way:

- If the effect does not exist prior to its production, then its cause does not exist or it has no cause. In other words, if something is unreal, then nothing can make it an existent entity (or it has no cause).
- But there are causes of an effect.
- Therefore, the effect does exist prior to its production (or manifestation).

Against this argument of the Sāṃkhya, the opponents have claimed that the effect is not unreal or non-existent like the horn of a hare. If it were non-existent like the horn of a hare, then nothing can produce it or it does not come under causal operation (*kārṇavyāpāra*). When it is said that an effect is unreal or non-existent (*asat*) what is meant is that it has no being or existence prior to causal operation or the set of causal conditions (*kāraṇa sāmāgrī*). Since the opponents of the Sāṃkhya have used a counter-probans (*pratihetu*) to establish the conclusion that the effect does not exist, the argument of the Sāṃkhya involves the fallacy of *satpratipakṣa* (existence of counter-thesis).

In other words, the Sāṃkhya philosophers have proposed the following thesis: If the effect is non-existent like the horn of a hare, then it has no cause. In this thesis the locus of inference (*pakṣa*) is the effect, the probans (*hetu*) is the property of being non-existent like the horn of a hare, and the probandum (*sādhyā*) is having no cause. But the Nyāya philosophers would propose the following counter-thesis: If the effect is not non-existent like the horn of a hare, then it has a cause.

2. The second argument of the Sāṃkhya philosophers emphasizes the invariable relation between a material cause (*upādāna kāraṇa*) and its effect. It may be formulated in the following way:

- If the effect does not exist prior to its production, it cannot be related to its material cause.
- But an effect is related to its material cause. Consider the relation between a seed and the sprout, between milk and yoghurt, between oil seeds and oil, or between the parts of a pot and the pot.
- Hence the effect exists prior to its production.

The second argument emphasizes the need for an appropriate material for an effect. If the effect were non-existent, the material cause could not bring it about. It is due to this relationship that the effect is considered as existent prior to its production.

In response to this argument the Nyāya philosophers would say that if the effect were present in the material cause, then the things or actions done by the effect could have been done by the material cause. But this does not happen. For example, the things done by oil cannot be done by the oil seeds. Hence from the fact that the effect is related to its material cause it does not follow that the effect is present prior to its production. Therefore, this argument of the Sāṃkhya commits the fallacy of *vyabhicāra* (deviation). In other words, the probans is present in the locus of inference but not the probandum. In this case the probans is the property of being related to its material

cause, and the probandum is the property of being present prior to its production.

3. The third argument rules out the possibility of an effect which is not related to a specific cause. It may be expressed in the following way:

- If an effect does not exist prior to its production, then it can be produced by any object (or cause) as it (effect) is not related to anything.
- But an effect is produced by a specific cause, In other words, it is not produced by any arbitrary thing.
- Hence the effect exists prior to its production.

From this argument it follows that an effect cannot be said to be an unrelated entity. It is related to a specific cause. Hence a related effect (*sambaddha-kārya*) is due to a related cause (*sambaddha-kāraṇa*). This argument emphasizes the specific relation between an effect and its cause. It is due to this relation that oil comes from oil seeds, not from heaps of sand.

Against this argument also the followers of the Nyāya would claim that from the fact that the effect is related to its cause or to a specific object it does not follow that it exists prior to its production. If the effect would have existed prior to its production, then whatever can be done by the effect can be done by the cause. But this does not happen. Hence this argument also commits the fallacy of *vyabhicāra* (deviation). In this case the probans is the property of being related to its cause (or to a specific object), and the probandum is the property of being present prior to its production.

4. The fourth argument is directed against the view which tries to establish the invariable relation between a cause and an effect in terms of the ability (*śakti*) of the cause to produce a particular effect without postulating the existence of the effect prior to its production. Since this view is directed against the Mīmāṃsā philosophers as well, let us explain their conception of ability (*śakti* or *sāmartha*).

According to the Mīmāṃsā philosophers an effect is non-existent prior to its production. Hence, unlike the Sāṃkhya view, it is not related to its cause. But from this fact it does not follow that there is no invariable connection between a cause and its effect. A cause has the potentiality or power (*śakti*) to produce a particular type of effect, not any type of effect. Having observed the effect of a particular object we infer the potentiality of the cause to produce its effect. This is how the invariable connection between a cause and its effect can be explained

even if the effect does not exist prior to its production. According to the Mīmāṃsā philosophers this power (*śakti*) in a cause is a separate entity (*padārtha*).

Against this view, the Sāṃkhya philosophers claim that the ability or the potentiality (*śakti*) of a cause must be related to a specific effect. If it is not related to a specific effect, then it might produce any effect. On the contrary, if it is related, then we have to accept the existence of the effect as it cannot be related to a non-existent effect. Hence the argument of the Sāṃkhya may be presented in the following way:

- If the effect does not exist prior to its production, then its cause cannot have the ability or potentiality to produce it.
- But a cause produces a specific effect as it has the ability (*śakti*) to produce it.
- Therefore, the effect cannot be said to be non-existent prior to its production.

It is to be noted that according to the Sāṃkhya the ability or the power (*śakti*) of a cause is not a separate entity. It is nothing but the potentiality to manifest the effect. Therefore, the effect which is related to its cause cannot be said to be non-existent.

Against this argument the Nyāya philosophers claim that they do not accept this type of ability which is related to the effect. According to the Nyāya causality (*kāraṇatva*) is defined in terms of the property of being always immediately prior to the effect and the property of being simpler than other competing conditions. Hence causality (*kāraṇatva*) does not depend upon the effect. Since the probans of the Sāṃkhya philosophers is unreal, the fourth argument involves the fallacy of unestablished probans (*hetvasiddha*).

5. The fifth argument tries to establish the existence of the effect in terms of the view that the effect is of the nature of its material cause. Since a non-existent cannot be of the nature of an existent, the effect which is of the nature of its cause cannot be said to be non-existent. This argument may be stated in the following way:

- If the effect is non-existent prior to its production, then it cannot be of the nature of its cause.
- But the effect is of the nature of its cause.
- Therefore the effect exists prior to its production.

The fact that the effect is not different (*abheda*) from its material cause has been demonstrated in several ways:

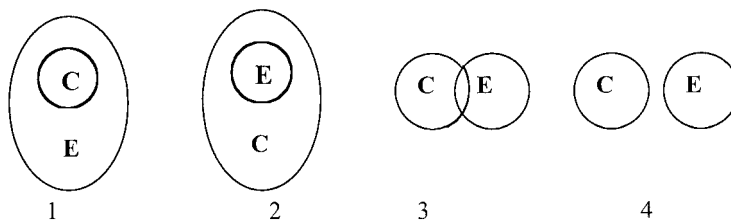
- Let us consider the relation between a piece of cloth and the threads which are material causes of the cloth. The inference which establishes the non-difference between them takes the following form: The cloth is not different from the threads, because the cloth is the property of the threads. This is due to the thesis that if X is different than Y, then X cannot be a property of Y. For example, a cow is not a property of a horse as the former is different from the latter.
- The second proof takes the following form: If X is different from Y, then they can be conjoined or disjoined. For example, a flower and a flower vase. Since a cloth cannot be dissociated from its threads or conjoined with its threads, it cannot be said to be different from its threads.
- Another argument may be formulated in the following way: If X is different from Y, then X might not have the same weight as Y. In other words, they might have different weights. But the weight of the effect cannot be more than the weight of its material cause. For example, the threads of a piece of cloth and the cloth. The weight of the latter is the same as the weight of the former. Hence the effect is not different from its material cause.

Now the Nyāya philosophers put forward the following five arguments against the non-difference between the cause and the effect:

- (a) If effect is not different from its cause, then the effect cannot be produced from its cause. Since we have knowledge of one being produced from the other, they cannot be said to be non-different. For example, a cloth is being produced from a collection of threads.
- (b) If the effect is not different from its cause, then it cannot be the case that the effect is destroyed but not the material cause. Since we come to know the destruction of the effect in its material cause, they cannot be said to be non-different. For example, we cognise the destruction of a cloth in its threads, or the destruction of a building in its bricks and mortar.
- (c) If the cause and the effect are not different, then one cannot be cognised as the substratum (*ādhāra*) of another. But the cause is cognised as the substratum of the effect. Hence they are different. For example, the cloth is cognised as the superstratum of its threads which are the substrata.
- (d) If the cause and the effect are not different, then the things that can be done by the cause and the things that can be done by the effect can be done by any one of them. In other words, the set of activities assigned to the cause or the effect can be assigned to any

one of them. For example, threads are used for sewing and the piece of cloth made out of these threads is used to cover certain things such as a table. If they are not different, then both the types of function can be performed either by the cause alone or by the effect alone. But this does not happen. Hence they are different.

- (e) If the cause and the effect are not different, then certain functions cannot be performed exclusively by the cause or by the effect. In other words, this argument claims that certain functions can be performed by the cause only and certain other functions can be performed by the effect only. If they are not different, then this is not possible. But threads are used for sewing, not for covering a table. Similarly, the cloth is used for covering a table, not for sewing. Hence the cause and the effect cannot be said to be non-different. It is to be noted that the fourth argument emphasizes the negative aspect, while the fifth argument emphasizes the positive aspect. In other words, the fifth argument presupposes our knowledge of certain functions assigned exclusively to the cause and certain other functions assigned exclusively to the effect. Hence the functions of one cannot be said to be a proper subset of the other. But the fourth argument is not used to demonstrate this aspect of the cause and the effect. The fourth argument will hold good even if the set of functions assigned to one of them is a proper subset of the set of functions assigned to the other. The following diagrams may be used to draw this distinction between these two arguments, where 'C' stands for the functions assigned to the cause and 'E' stands for the functions assigned to the effect.



The fourth argument will be valid if 1, 2, 3, or 4 holds. But the fifth argument will be valid only if 3 holds.

Against the above five arguments of the Nyāya the following arguments have been put forward by the followers of the Sāṃkhya:

- It is claimed that one thing appears from another even if they are not different. For example, the head of a turtle appears from its shell, although it is not different from the turtle. Similarly, an earthen jar appears from a lump of clay, although the former is

not different from the latter. Hence from the fact that the effect appears from the cause, or is manifested by the cause, it does not follow that the effect is different from its cause.

- Similarly, one thing may disappear into another without being two separate entities. For example, the head of a turtle disappears into its shell. Again, the earthen jar, when destroyed, disappears in its parts or the clay. Hence from the fact that the effect disappears it does not follow that it is different from its cause.

From the above two arguments it follows that the existence and the non-existence of an effect are to be explained in terms of appearance or disappearance of it.

- As regards the use of substratum – superstratum relation between the cause and the effect, the Sāṃkhya claims that this relation is to be understood by introducing difference in non-difference. This is what we do when we use expressions such as ‘Pine trees are in this forest’. Similarly, we have to understand the expression ‘This piece of cloth is in its threads’. As pine trees are in the forest, so an effect is in its cause.
- As regards the fourth argument, the Sāṃkhya claims that from the fact that different functions are performed by the cause and the effect, it does not follow that they are different. Sometimes different functions are performed by things which are not different. For example, the same fire can be used for revealing things, for burning, or for cooking. Hence from the diverse functions such as sewing and covering it does not follow that the difference between a piece of cloth and its threads can be established.
- Again from the fact that sewing is exclusively performed by the threads, and covering is exclusively performed by the cloth, it does not follow that they are different. This is due to the fact that the same thing or person can perform certain functions in isolation and certain other functions in conjunction with other things or persons. For example, a palanquin can be carried by four persons together but not by each of them separately, although each of them separately can lead the way or carry the lantern. Similarly, each of the threads can be used for sewing but all of them together arranged in a certain way can be used for covering a table. When the threads are conjoined together, we use the word ‘cloth’, and the conjoined threads can be used to cover something such as a table. Hence a piece of cloth is not different from its threads. Therefore, an effect is not different from its material cause.

Now the Nyāya philosophers have raised another type of objection against the view of the Sāṃkhya. They have asked the question whether the effect exists or does not exist prior to the operation (*vyāpāra*) of the material cause. If it does not exist, then the Sāṃkhya thesis is to be rejected. On the contrary, if it does exist, then the operation of the cause (*kāraṇavyāpāra*) would be of no use.

In response to this question the Sāṃkhya philosophers claim that the causal operation is necessary for the manifestation or the appearance of the effect. Now the question is whether manifestation exists or does not exist. Since the manifestation is related to the effect which exists, the Sāṃkhya philosophers cannot claim it to be non-existent. If the manifestation also exists, then the causal operation would be redundant, because both the effect and its manifestation are existent. On the contrary, if the operation is required to manifest the manifestation of the effect, then we require another operation to manifest the second manifestation and so on. Thus there will be an infinite regress in the thesis of the Sāṃkhya philosophers.

Now the followers of the Sāṃkhya raise a similar objection against the Nyāya. If the effect does not exist, then its production (*utpatti*) also does not exist. If the production of the effect requires a production, then it also does not exist. Thus there will be an infinite regress of productions. In order to avoid this regress it may be said that the production of an effect is not different from the effect. Hence a piece of cloth and its production are not different. The production of an effect is to be identified with the effect.

Now an objection has been raised against this defence of the Nyāya. If we accept this view, then a sentence about the production of an effect such as 'A cloth is produced' ceases to be informative. Since the use of the word 'cloth' entails its production, this sentence would mean 'The production of the cloth is produced', which is a tautology. From this view it would also follow that a sentence about the destruction of an effect is a contradiction. Since the word 'cloth' entails its production, there will be a contradiction if the predicate 'destruction' is applied to the cloth. Hence the sentence 'The cloth is destroyed' would mean 'The production of the cloth is destroyed', which is a contradiction. In order to avoid this type of undesirable consequences, the Nyāya philosophers would identify the production of an effect with the relation of inherence (*samavāya*) which relates an effect to its inherent cause, or with the relation of inherence which relates the universal existence (*sattā*) to the effect. In either case, there will not be any production. Since the relation of inherence is permanent in the ontology of the

Nyāya, the production which is not different from it would also be permanent.

It is to be noted that this objection does not apply to the views of some Navya-Nyāya philosophers such as Raghunātha. According to Raghunātha the relation of inherence is neither one nor permanent (*nitya*). Hence the relation which relates an effect to its inherent cause is also impermanent (*anitya*).

From the above discussion it follows that the Nyāya philosophers insist on the use of the words 'production' and 'destruction' in the context of causation, while the Sāṃkhya philosophers emphasise the use of the words 'appearance' ('manifestation') and 'disappearance' ('unmanifestation'). Hence according to the Sāṃkhya the same thing can appear, disappear and reappear. But according to the Nyāya a thing cannot reappear once it is destroyed. So an earthen jar when destroyed, cannot reappear. But according to the Sāṃkhya, reappearance cannot be ruled out. Hence there is no creation in the literal sense of this term. Therefore, these two systems suggest two different interpretations of reality.

SECTION II

In this section I would like to discuss the view of the Bauddha philosophers in general. The following may be considered as some of the distinctive features of Buddhist conception of causality:

- An effect has one cause, not a set of causal conditions.
- The cause of an effect ceases to exist when an effect is produced.
- The auxiliary conditions (*sahakārīs*) are not to be treated as causal conditions. They are also called '*upakārīs*' ('benefactors'). In other words, the cause derives some benefit from them.
- It also leads to the view that everything is momentary (*kṣaṇika*).

The Buddhist also try to establish the equivalence between the following sentences amongst others:

- (a) X is a cause (*kāraṇa*),
- (b) X is an agent for an action or a result (*arthakriyākārī*),
- (c) X is real or existent (*sat*), and
- (d) X is momentary (*kṣaṇika*).

Hence the terms '*kāraṇa*', '*arthakriyākārī*', '*sat*', and '*kṣaṇika*' are co-extensive. Since '*sattva*' ('reality' or 'existence') is defined in terms of '*arthakriyākāritva*' ('the property of being the agent for an action

or a result'), the terms '*sat*' ('real') and '*arthakriyākārī*' ('the agent for an action') would be synonymous. But the other terms would not be synonymous with these two. The word 'causality' ('*kāraṇatva*') is defined in terms of 'the property of being always immediately prior' ('*niyata avyavahita pūrvavarttitva*') to the effect and the word 'momentariness' ('*kṣaṇikatva*') in terms of 'the property of ceasing to exist after origination'. It is to be noted that the word 'momentary' does not signify a time segment or a split of a second. If a thing is momentary, then it does not have any duration. According to the followers of other systems of Indian philosophy most of the things have three moments, viz., origination, duration and cessation. But according to the Buddhist philosophers things have only two moments, viz., origination and cessation. Hence a thing ceases to exist after its origination.

In order to establish the thesis that whatever exists has causal efficacy, i.e., the property of being the agent for a result (*arthakriyākāritva*), some Buddhists have used the premise 'If an object does not have causal efficacy, then it does not exist'. In favour of this premise they have used examples such as the hare's horn, the son of a barren woman, etc. If this premise can be substantiated, then by applying the rules of logic it can be proved that 'If an object exist, then it has causal efficacy'. But the followers of the Nyāya, Vaiśeṣika, and other systems have criticized this method of the Buddhists. It is claimed that unexampled (*aprasiddha*) entities such as the hare's horn cannot be used to substantiate the thesis 'If a thing has no causal efficacy, then it does not exist'. Since there is no example in favour of this proposition, it cannot be used to establish the thesis that if a thing exists, then it has causal efficacy.

In order to overcome this type of objection the later Buddhist philosophers tried to establish the thesis 'Whatever exists has causal efficacy' and 'Whatever has causal efficacy is momentary' in terms of examples such as rain-bearing clouds (*jaladharapaṭala*) and the last sound in a series of sounds (*antyaśabda*). Rain-bearing clouds have both existence and causal efficacy. Moreover, they are also momentary. The last sound in a series of sounds is not destroyed by its successor as it has no successor. It is to be noted that according to the Nyāya-Vaiśeṣika most of the entities have duration in addition to origination and cessation. In the case of a series of sounds, each member of the series except the last one has duration and is destroyed by its successor. The last member of this series has no duration. Hence it ceases to exist after its origination. Therefore, it is momentary (*kṣaṇika*). Similar is the case with respect to the last member of a series of mental states such as

cognition or desire. Since the last sound ceases to exist or is destroyed without producing anything, it has no causal efficacy. Since it has no duration, it is momentary. But the rain-bearing clouds have causal efficacy as they produce rain. Since they do not have duration, they are also momentary. These are examples of momentary entities. Now the Buddhist philosophers try to prove that this is true of everything. The proof takes the form of *reductio ad absurdum*. In other words, they try to refute the denial of this thesis. Hence the view that a thing has causal efficacy but is not momentary (*sthir*) is not tenable.

Now let us discuss the refutation of the view that a thing has causal efficacy but is not momentary. This view can take three forms. Suppose *x*, *y*, and *z* are existent objects; *F*, *G*, and *H* are effects (results of actions); *t*₁, *t*₂, and *t*₃ are past, present and future respectively, or three time-segments. There are three alternatives if a thing is not momentary:

- (1) *x* exists at *t*₁, *t*₂, and *t*₃; but produces the same effect, say *F*, at *t*₁, *t*₂, and *t*₃.
- (2) *y* exists at *t*₁, *t*₂, and *t*₃. It produces something, say *F* at *t*₁, but nothing at *t*₂, or *t*₃.
- (3) *z* exists at *t*₁, *t*₂, and *t*₃; but produces different things at different times. Suppose *z* produces *F* at *t*₁, *G* at *t*₂, and *H* at *t*₃.

The Buddhists would reject the first alternative on the ground that nothing can be repeated. In other words, if *x* produces *F* at *t*₁, then it cannot produce the same effect at *t*₂, or *t*₃.

As regards the second alternative, it is said that if *y* does not produce anything at *t*₂, or *t*₃, then it becomes unreal at that time. Since reality is defined in terms of the property of being the agent for an action or result, *y* would be unreal at *t*₂ or *t*₃. In other words, the Buddhists claim that a real object cannot be distinguished from an unreal object if it (real object) does not produce anything. For this reason I would lack existence at *t*₂ or *t*₃. Hence this alternative is to be rejected.

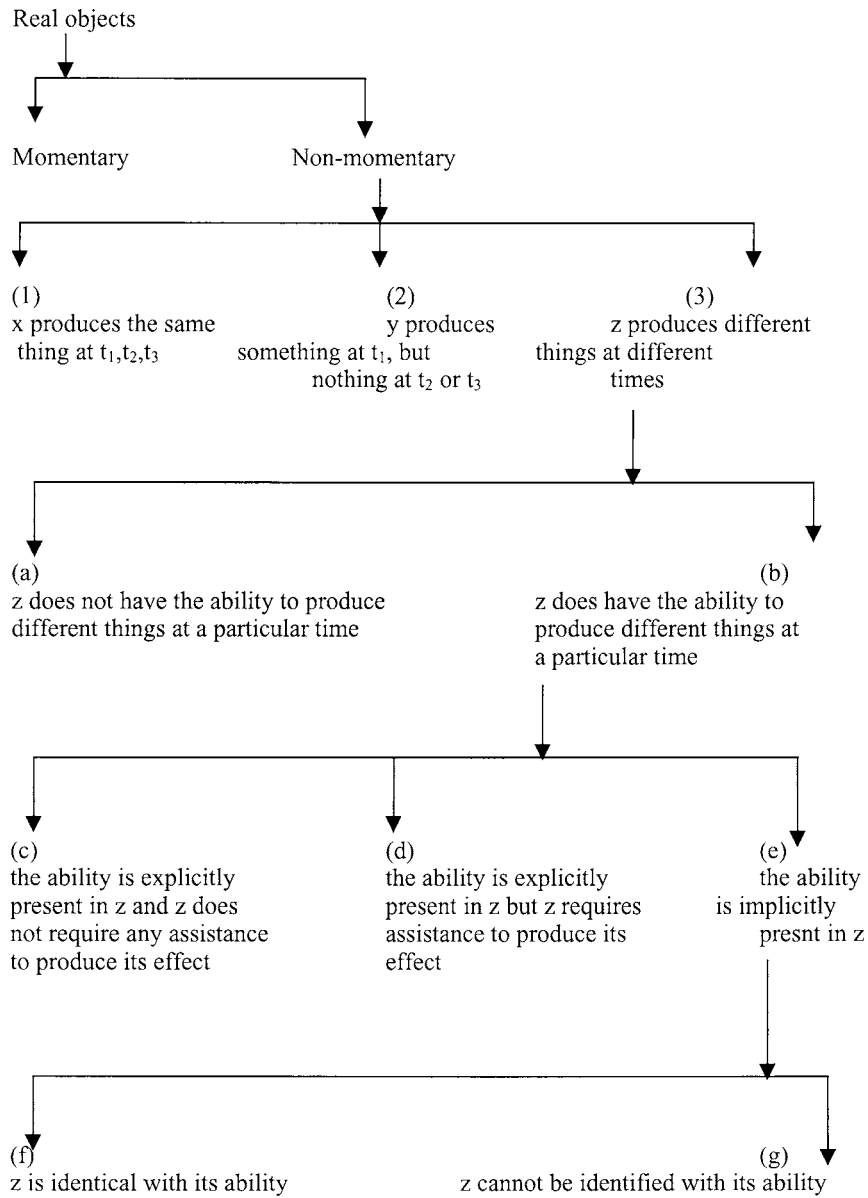
With respect to the third alternative the Buddhists would ask whether *z* has the ability (*sāmarthya*) to produce *G* or *H* at *t*₁.

- (a) If it does not have the ability to produce *G* at *t*₁, then the question would be how to explain the production of *G* at *t*₂. Similarly, the question would be how to explain the production of *H* at *t*₃.

In reply, it may be said that *z* produces *G* when the auxiliary causal conditions are present. Suppose *z* produces *G* at *t*₂ in conjunction with the auxiliary cause (*sahakārī kāraṇa*) *m*. Now the question is whether the auxiliary causal condition does something to *z* or not. If it does

something to z, then it produces some effect in z, say n. This n produces G, not z. If the auxiliary causal condition does nothing to z, then it becomes superfluous. If it is said that x and m together produce G, then the collection (*sāmagrī*) or the coming together is the cause of G, not z. Hence this alternative is not tenable.

- (b) If z does have the ability to produce G at t_1 , then the question would be whether this ability is explicit or implicit.
- (c) If the ability (*sāmarthya*) to produce G at t_1 is explicitly present in z and it does not require anything else for its production but does not produce G at t_1 , then there would be a contradiction. In other words, z does not produce G at t_1 , although it has the explicit ability to produce G at t_1 without any auxiliary causal condition.
- (d) In order to avoid the contradiction if it is said that z requires something else, say p, to produce G although the ability is explicitly present, then the previous objections would arise. In other words, the auxiliary causal condition produces something in z, say q, which produces G at t_2 . Hence z is not the cause. If z and p together produce G at t_2 , then the collection (*sāmagrī*) becomes the cause, not z.
- (e) In order to avoid the above objections it may be suggested that the ability (*sāmarthya*) to produce G at t_2 is implicitly present in z at t_1 . Similarly, the ability to produce H at t_3 is implicitly present in z at t_1 and t_2 . When the auxiliary causal condition, say r, is present, the implicit ability becomes explicit and the effect G is produced at t_2 . Now the question is whether z is to be identified with this ability.
- (f) If it is identified with this ability, then it is not the same z which produces F at t_1 . Hence we cannot say that z produces F at t_1 and G at t_2 .
- (g) If z is not identified with this ability, then the ability which is manifested by r produces the effect G at t_2 . Therefore, z does not produce G at t_2 . If it is claimed that z in conjunction with the manifestation of the ability produces G at t_2 , then the collection (*sāmagrī*) is to be considered as the cause, not z. This is how the Buddhist philosophers would reject the third alternative which supports the view that a thing which has causal efficacy need not be momentary. Since all the three possible alternatives are untenable, the Buddhists claim that if a thing has causal efficacy, then it is momentary. The above arguments of the Buddhists may be represented by the following diagram.



Now the critics ask, if the auxiliary causal conditions are not to be treated as causes, then the seed which is lying on the table would also produce a sprout. In other words, there would not be any difference between the seed which is on the table and the seed which has been sown. The latter produces sprout because it has the required auxiliary

causal conditions such as soil, water, etc. Hence the seed which is on the table would produce a sprout if there are some auxiliary causal conditions. From this type of example the critics conclude that an effect cannot be produced by a single cause, but by a set of causal conditions. Moreover, since all the causal conditions are necessary for an effect such as sprout, the distinction between auxiliary and non-auxiliary causal conditions is not tenable.

In reply, the Buddhists claim that the distinction between the seed which is on the table and the seed which produces the sprout can be drawn without treating auxiliary conditions as causal conditions of the sprout. The seed which produces the sprout has a special property called '*ānkura-kurvadrūpatva*' ('the ability to produce the sprout'). This property will produce the sprout as soon as it is produced in the seed. Hence the seed qualified by this property is immediately prior to the sprout. For this reason it is to be treated as the cause of the sprout, not the seed which is on the table. This property is due to certain auxiliary conditions, such as soil, water, etc. Hence the auxiliary conditions are not causal conditions of the sprout, but are causal conditions of the property by virtue of which the seed has produced the sprout. Since the auxiliary conditions are not causal conditions of the sprout, they are treated as benefactors (*upakāris*) of the seed.

Now the opponents point out that if the Buddhists claim that the cause of the sprout is the seed qualified by the ability to produce the sprout (*ānkura-kurvadrūpatva*), then there would be substance-quality distinction in the cause. This would contradict the thesis of the Buddhists that there is no qualified object. In other words, there is no distinction between a property and a property-possessor (*dharmā-dharmī*). Since the qualifier would precede the qualified object, there cannot be any qualified object. This is due to the fact that everything is momentary. Moreover, the Buddhists have used the term 'ability to produce the sprout' (*ānkura-kurvadrūpatva*) which signifies a universal. Since this property is present in any seed which produces a sprout, it is to be treated as a universal. This contradicts the thesis of the Buddhists that everything is unique (*sarvaṃ svalakṣaṇam*). Furthermore, the Buddhists claim the seed which is on the table also produces another seed of the same type or kind. Hence they have to accept entities over and above unique particulars.

In reply, the Buddhists point out that the word '*ānkura-kurvadrūpatva*' ('the ability to produce the sprout') does not signify a universal. It is a specific condition of the seed which is a unique particular. In order to convey this new condition or the modified condition

of the seed, the language of property and property-possessor (*dharmadharmī*) has been used. In fact, the referents of this expression are all unique particulars. The seed has been imagined to have this property, although there is no substance-quality distinction in reality. Secondly, the seed which is on the table produces another seed which is also equally a unique particular. The word 'kind' is used simply to signify that it is caused by its predecessor. Hence such expressions should not be taken literally. Therefore, the seed which produces the sprout and which is imagined to be qualified by the ability to produce the sprout (*aṅkura-kurvadrūpatva*) is as unique as the seed which is on the table. Hence both the cause and the effect are unique particulars.

Moreover, the Buddhists claim that their one-cause theory is simpler than other theories of causality. According to all other systems of Indian philosophy there are many causes of an effect. These causal conditions have been classified into different types by using different principles of classification. In addition to the many-cause theory, some systems of Indian philosophy have accepted one ultimate cause. The Sāṃkhya claims that the ultimate cause is *prakṛti* (nature), but the followers of the Advaita Vedānta claim it to be Consciousness which appears to be qualified by *Māyā* (cosmic nescience or ignorance). Since the Buddhists do not accept any ultimate cause or the many-cause theory, their theory is simpler than other theories of causation.

As regards the nature of causation, the critics have raised a serious objection. Since, according to the Buddhists, everything is momentary, the cause ceases to exist when the effect comes into being. For example, the sprout comes into being when the seed is destroyed. Hence the destruction of the seed is to be considered as the real cause of the sprout. Since destruction is a negative entity or an absence, it cannot give rise to something positive. In order to avoid this objection if the Buddhists suggest that the destruction of the cause and the origination of the effect are simultaneous, then there cannot be any cause-effect relation. Since both the cessation of the cause and the origination of the effect happen at the same time, one does not depend upon the other. Since causation implies dependence, this view goes against the very conception of it. The difference between these two views may be stated in the following way:

Suppose the seed which produces the sprout comes into being at t_1 . According to the former view, the seed ceases to exist or is destroyed at t_2 , and the sprout comes into being at t_3 . But according to the latter view the seed ceases to exist at t_2 and the sprout is also produced at

t_2 . Since none of the views is plausible, the Bauddha conception of causality is not tenable.

In reply, the later Bauddha philosophers, such as Śāntaraksita and Kamalaśīla, claim that there is no gap between the cause and the effect. In other words, they have rejected the former view which claims that first there is destruction of the cause, then there is origination of the effect. According to their positive thesis the effect begins to appear as the cause begins to disappear. The analogy of a weighing scale may be used to illustrate this point. As one side of a scale goes down the other side goes up; similarly, as the cause ceases to exist the effect comes into being. This is how they have tried to avoid the above objections of the critics.

Now the question is how the Buddhists would explain memory and recognition if everything is momentary. Since the self is also momentary, it would be difficult to explain memory-cognitions such as 'I remember a table' or recognitions such as 'This is the same table which I saw yesterday'.

In order to explain memory and recognition some Buddhists have used the concept of series or flow (*prabāha*). It is claimed that an object such as a table or seed is a series or flow (*prabāha* or *santāna*) of momentary entities. Similarly, what we call 'self' is a series or flow of experiences or mental entities. Hence each self is a flow or series of experiences. Since this flow remains the same, the memory-cognition of previous perception or recognition is possible.

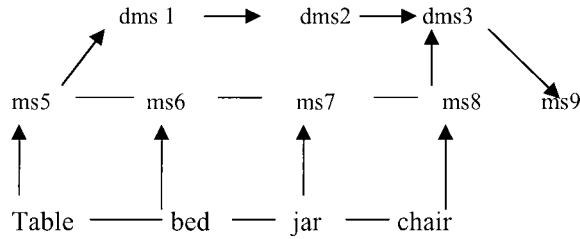
Now the question is whether this flow (*prabāha*) is identical with its members or different from them. If it is identical with its members, then it must also be momentary. If not, then what would be its nature. Since there is no whole in addition to parts of an object in Buddhism, the flow or the series cannot be analogous to a whole. If it is not momentary, then the Buddhists cannot claim that everything is momentary.

In order to avoid the above problems some Buddhists might claim that each mental state has the disposition of its predecessors. Since a mental state is related to its immediate predecessor, it has the disposition of its predecessor. Memory would be explained in terms of the revival of this disposition.

Now the critics point out that on this view there would be innumerable mental dispositions in a particular mental state if there are innumerable predecessors. Moreover, questions may be asked about the ontological status of dispositions. Are they implicit in a conscious mental state? How are they related to a mental state? In order to avoid some of these questions another model might be suggested for the explanation

of memory and recognition. This model might be called the ‘causal model’ as only the category of causality is involved. The following diagram may be introduced to explain memory in terms of causality.

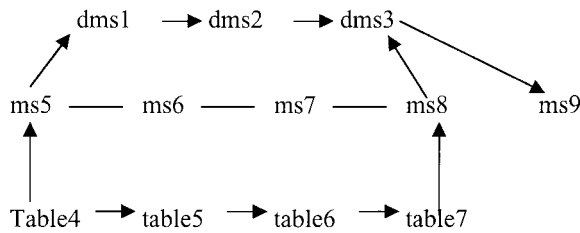
Memory Diagram



Suppose ms5 to ms9 are mental states, and dms1 to dms3 are dispositional mental states. Again, suppose ms5 is caused by a table, ms6 by a bed, ms7 by a jar, and ms8 by a chair. The ‘→’ is used to signify causal relation.

The dispositional mental states are due to mental states such as the awareness of a table or a chair. Again the awareness of a table is causally related to a table if it is perceptual. Hence dms1 is due to ms5, dms2 due to dms1, and dms3 due to dms2. Now ms8 which is due to a chair revives dms3. Since a chair and a table have been perceived together, one may revive the disposition of the other. Hence ms8 revives dms3, which causes ms9. In our diagram ms9 is the memory-cognition of the table which was perceived in the past. This memory-cognition is due to the revival of the dispositional state dms3. This revival is due to ms8. Again dms3 is causally related to the previous perception of the table i.e. ms5. Hence a memory is caused by a disposition which is due to a previous perception. So the explanation of memory-cognition does not involve any non-momentary entity. Now let us explain recognition in terms of the following diagram.

Recognition Diagram



Here also ms5 to ms8 are mental states, and dms1 to dms3 are dispositional mental states. The mental state ms5 is due to table4. Again table5 is causally related to table4, table6 to table5, and table7 to table6. Each of them is momentary. Now the mental state ms8 is due to table7, and it revives the dispositional mental state dms3 which is causally related to ms5 which is due to table4. The revived dispositional state dms3 produces the mental state ms9 which can be expressed by 'This is the same table which was apprehended in the past'. In this diagram also, the '→' signifies a causal relation. As the arrows are in 6 directions, there are 6 causal chains. Since they are all related to each other, recognition can be explained in terms of these relations. Moreover, this explanation also does not presuppose any non-momentary object. In this context it is to be noted that there are two views regarding the relation between recognition and the revived disposition. According to one of them the revived disposition is the immediate predecessor of recognition, while according to the other the memory-cognition is the immediate predecessor of recognition and the memory-cognition is due to the revived disposition. If we accept the second view, then there will be one more causal chain in our above diagram.

Now the critics of this theory would claim that the above models for the explanation of memory and recognition are complex and cumbersome. There are not only different causal chains, but also different directions of these chains. If we accept non-momentary objects, then our explanation of memory and recognition would be much simpler. Moreover, our explanation would be closer to ordinary usage as the latter presupposes non-momentary objects. Since the acceptance of non-momentary objects at the empirical level is very useful, the view of the Buddhists that everything is momentary is not acceptable to the followers of other systems of Indian philosophy.

SECTION III

In this section I shall discuss the relationship between the terms 'effect' (*kārya*), 'event' (*kādācitka*), 'action' (*karma*), and 'moment' (*kṣana*) in the ontology of the Nyāya system. I shall also define the term 'cause' (*kāraṇa*) and classify causal conditions from the Nyāya point of view. Since all the schools of Indian philosophy have discussed the nature of knowledge (or cognition) and its origin, I shall briefly mention the causal conditions of perceptual, inferential, analogical and verbal cognitions from the standpoint of the Nyāya in the fourth section of this paper.

According to the Nyāya system an event is either positive or negative. Since destruction or cessation is also an event, it is considered negative. Moreover, according to the Nyāya philosophers, unlike the Buddhists, every event has a set of causal conditions, both positive and negative. Hence every event is an effect, although it is not defined in terms of effect. An effect (*kārya*) is the negatum (counterpositive) of a not-yet type of absence (*prāgabhāva*). Hence it is defined in terms of an absence. Most of the Nyāya philosophers have accepted four kinds of absence (or negation).

- 1) The absence of an object prior to its production is a not-yet type of absence (*prāgabhāva*). For example, the absence of this table before its production. This absence is present in each of the parts of the table prior to its production.
- 2) The absence of a positive object (*bhāva padārtha*) after its destruction is a no-more type of absence (*dhvaṃsa*). For example, the absence of an earthen jar (*ghaṭa*) when it is destroyed. Here also the absence characterises each of its parts after its destruction.
- 3) If an object cannot characterize another object by the relation of substratum-superstratum (*ādhāra-ādheya sambandha*), then there is a never-type of absence (*atyantābhāva*). For example, the absence of colour in air or the absence of consciousness in an inanimate object such as a stone.
- 4) If an object is not identical with another object, then there is mutual absence. For example, John is different from Tom and Tom is different from John.

The first three types are called 'relational absence' (*saṃsargābhāva*), and the fourth type is called 'difference' (*anyonyābhāva* or *bheda*). The negatum of an absence is not an unreal (*alīka*) entity. Since an effect is the negatum of a not-yet type of absence, it is a real entity. But the definition of an event does not refer to an absence. It is defined in terms of the property of being occurrent in time. The following may be considered as the definition of an event.

x is an event (*kādācitka*) Df $(\exists t_1) (\exists t_2) (x \text{ is related to } t_1, \text{ but not to } t_2)$, where t_1 and t_2 are segments of time.

Hence the words 'effect' and 'event' do not have the same connotation or meaning, although they have the same extension in the ontology of the Nyāya. Again, since the definition of the word 'effect' has no reference to the word 'cause', there is no circularity in this definition.

Therefore, the words 'event', 'cause' and 'effect' do not have the same meaning.

Now let us discuss whether action (*karma*) is a causal condition of an effect (*kārya*). The word 'karma', in the Nyāya system, is used in two senses. In its primary use, it refers to one of the seven categories of the Nyāya-Vaiśeṣika system. Since it refers to different types of movements such as throwing upwards as well as downwards, contraction, expansion, etc., it is translated as 'action'. In other words, it refers to any type of motion or movement. Every action, in the Nyāya-Vaiśeṣika system, resides in a substance by the relation of inherence. The word '*karma*' is also used to refer to the locus of the result of an action. Hence any change of place would be the locus of the result of an action. In this paper I shall be using the word '*karma*' in the sense of 'action'. Due to karma there will be conjunction (*saṃyoga*) and separation (*vibhāga*), which are qualities in the Nyāya-Vaiśeṣika system. It has been defined in the following way:

x is a *karma* (action) Df x is different from a conjunction, but x is similar-to-inherent cause (*asamavāyī-kāraṇa*) of a conjunction.

If we do not use 'different from a conjunction', then it would refer to entities which are not actions. In this context it is to be noted that a conjunction is either due to an action or due to a conjunction. Let us consider the following example.

When I touch a branch of a tree with my hand, there is a contact (conjunction) between my hand and the branch. This contact could be due to the movement of my hand, or due to the movement of the branch, or due to both. According to the Nyāya philosophers if there is a contact with a part of a thing (*avayava*), then there is a contact with the entire thing or the whole (*avayavī*). Hence there would be contact between my hand and the tree. This contact would be due to the contact of my hand with the branch, and the latter contact would be the similar-to-inherent cause of the former contact. Similarly, my body is in contact with the branch of the tree. This is also due to the fact that my hand is in contact with the branch. Here also one contact is the similar-to-inherent cause of another contact. Hence if we do not use the expression 'different from a conjunction', the definition would refer to a contact which is causally related to another contact.

This point of the Nyāya-Vaiśeṣika system has a far reaching consequences. It is used to explain the perception of a whole as distinct from its parts and thereby to avoid skepticism. In order to substantiate the perception of the whole from the perception of its parts, the Nyāya philosophers have used a *reductio ad absurdum* argument. It is claimed

that if we do not accept the contact with the tree which is a whole (*avayavī*), then there cannot be contact with its branch which is also another whole. The question is whether there is contact with the entire branch or with its parts. If we apply the same argument, then we have to say that there is contact with a part of a branch, not with the whole. Now the question is whether we are in contact with this part which is another whole. If it is said that we are in contact with a part of this part, then it will involve a regress. In order to stop the regress it might be said that the hand is in contact with the ultimate parts or some of the atoms of the tree. But this position is not tenable. Since the atoms are not amenable to our senses (*atīndriya*), the contact with an atom will not be amenable to our senses. If it were so, then we cannot have contact with any object. Since we do accept contact with the things or objects, the above view is to be rejected. In other words, we have to accept the contact with the branch which is a whole. Hence we have to accept the contact with the tree, of which the branch is a part. In order to explain the perception of a whole, amongst other things, the Nyāya philosophers have accepted contact which is due to another contact. So every contact is not due to an action. In order to exclude such cases the expression 'different from a contact' is necessary for the definition of 'action'. Similarly, if we do not use the expression 'similar-to-inherent' (*asamavāyī*), then the definition would apply to a substance which is an inherent cause (*samavāyī-kāraṇa*) of a conjunction. Hence it is also necessary for the definition of 'action' (*karma*). Now let us discuss whether a set of causal conditions would include an action.

According to the Nyāya all physical effects are due to some action or the other. Mental effects such as cognitions are due to contact of the mind (*manas*) and the self. Hence they are not caused by actions, but they presuppose actions which are causes of causal conditions. But mental dispositions (*saṃskāras*) which are due to cognitions do not even presuppose actions as causes of causal conditions. Mental dispositions called '*bhāvanā*' are to be distinguished from two other types of disposition. The disposition which is due to an action and which is a cause of another action is called '*bega*'. For example, the movement of a ball when struck with a certain velocity. A movement, in the Nyāya ontology, is an action. In this case there is a series of actions. The first action is due to contact with certain velocity, but all other actions are due to dispositions called '*begas*'. The disposition which is present in objects, such as rubber is called '*sthiti-sthāpaka*'. It is due to this disposition a piece of rubber comes back to its original form or size when it is left after being stretched. From the above discussion it

follows that some mental states such as cognitions presuppose certain actions as causes of causal conditions, but certain other mental states such as dispositions do not even presuppose actions as causes of causal conditions. But if we take 'cause' in the sense of '*prayojaka*', then an action would be a cause of the cause of the cause of a mental disposition. Again, since the relation of conjunction between the internal sense organ (*manas*) and the self is a cause of dispositional mental state, an action is presupposed by this relation of conjunction as well. Hence an action is not a cause, but a cause of the cause of a mental disposition.

Now it may be asked whether the cessation or destruction of a mental disposition is due to an action. Sometimes our mental dispositions are lost, not due to disease, but due to some gap or long gap in the revival of these dispositions. Hence time may be considered as the cause of the cessation of our disposition. Since no action is involved in such cases, we cannot claim that cessation or destruction is always due to an action. Now it may be asked whether we can understand time without any action. According to the Nyāya philosophers we cannot understand time without an action. If it were so, then an action in terms of which we understand a gap or a long gap is to be considered as the cause of the loss of a disposition. For example, the rotations of the earth in terms of which the gap has been understood. From the above discussion it follows that the cessation of a mental state such as disposition involves an action in the above manner as its cause, but its origination does not involve an action as its cause. For this reason action is not considered as a causal condition of every effect.

Now the question is whether 'moment' is to be defined in terms of an action. If it is, then the moment of duration of the cognition which is the cause of a disposition involves an action. It is to be noted that a cognition, according to the Nyāya, has a moment of origination, of duration and of cessation. Hence it has three moments. During the moment of its duration it produces its disposition. At the third moment it is destroyed by its disposition or by a new cognition. Hence the explanation of the cause of a disposition refers to an action. This objection is based upon the Nyāya conception of moment. A moment is defined in terms of an action. Every action, according to the Nyāya, has origination and three successive effects. Hence it lasts for four moments.

The first moment is to be explained in terms of the origination of an action and its immediate effect. The three successive effects of an action are separation, destruction of the previous contact (conjunction) and the origination of the next contact. Hence the first moment is to

be described as the action which is qualified by the not-yet type of separation which is due to it. Therefore, the time (*kāla*) which is limited by this complex imposed property is the first moment.

The second moment is the origination of separation which is due to the same action. The action qualified by the separation becomes the imposed property of the second moment. Therefore, the time limited by this imposed property is the second moment. The third moment is the cessation of previous conjunction. The same action qualified by the cessation of the previous conjunction becomes the imposed property of the third moment. Hence the time limited by this imposed property is the third moment.

The fourth moment is the origination of the next conjunction. The same action qualified by this conjunction becomes the imposed property of the fourth moment. So the time limited by this imposed property is the fourth moment.

Among these four moments the first one is qualified by the not-yet type of separation which is due to the action. Since the action has not yet produced its effect, the first moment is not qualified by any effect. But the remaining three moments are qualified by the effects of this action. In this context it is to be noted that a moment can be described by several imposed properties. A particular moment can be described by the origination of an action, or by the effect of another action, or by the originations of several actions, or by the effects of several actions.

From the above discussion it follows that the concept of earlier than or later than is to be explained in terms of moments which are to be explained in terms of actions. Hence the moment described in terms of the origination of an action is earlier than the moment described in terms of its effect. Now a question may be asked in the following way: How can we explain the use of the word 'moment' in the context of a mental entity such as cognition which is a quality, not an action? The cognition which produces a disposition must have the moment of duration and must be earlier than its effect. If we assign activity to a cognition, then it goes against the Nyāya thesis that mental entities are qualities of the self. Since the self in the Nyāya ontology is not qualified by any action, mental states such as cognition, disposition, desire, etc., are its qualities. If they are qualities, how can we describe them in terms of 'moments'?

In order to answer this question and a few others the Nyāya has postulated the Absolute time. Everything is in Absolute time by the relation called 'temporal self-linking' (*'kālika-svarūpa-sambandha'*). The use of the word 'moment' in the context of mental qualities has been

explained in terms of an action of something else. Absolute time also explains the nature of certain relational qualities such as the property of being older than (*jyeṣṭhatva*) and the property of being younger than (*kaniṣṭhatva*). These qualities are effects of certain actions which are not obvious to us. According to the Nyāya they are qualities of our body. They are related to some other action such as the rotation of the earth, which is related to Absolute time. The property of being older than is related to the same time to which certain rotations of the earth are related. Hence the relation between the property of being older than and certain rotations of the earth is having the same locus (*sāmānādhikarānya*) as both of them are related to the same Absolute time. It may be represented in the following way:

If F is related to t_1 and G is also related to t_1 , then F is related to G by having the same locus, where t_1 is the locus.

Similarly, we have to explain the property of being younger than. When we say x is younger than y, what we mean is that the number of rotations of the earth to which x is related by the relation of having the same locus is less than the number of rotations of the earth to which y is related by the relation of having the same locus.

As we have explained the relation between the property of being older than and the rotation of the earth, we have to explain the relation between the moments of a cognition and an action. The origination, or the duration, or the cessation of a cognition is to be explained in terms of the moments of an action. In other words, a cognition is related to the same locus to which an action is related. So the relation between them is also having the same locus (*sāmānādhikarānya*). This is how the Nyāya philosophers would explain the use of the terms 'origination', 'duration', 'cessation', or 'earlier than' in the context of mental qualities. Hence a cognition which has duration can be causally related to a mental disposition without being an action. Therefore, action is not involved in every set of causal conditions. From the above discussion it follows that the Nyāya philosophers have shown how the terms 'cause', 'effect', 'event', 'action', 'moment' and 'time' are related to each other.

Now let us discuss the nature of causal conditions. The Nyāya philosophers have defined causal conditions in terms of the following three properties:

- The property of being related to the locus of the effect immediately prior to the effect (*avyavahita pūrvavartitva*).
- The property of being always present (*niyatatva*).

- The property of being simpler than other competing conditions (*ananyathāsiddhatva*).

From the first condition it follows that if x is a causal condition for the effect E, then x is present immediately prior to E. From the second condition it follows that x is always present whenever E occurs. Hence from these two conditions it follows that a causal condition has the property of being the pervader which is limited by the property of being present immediately prior to the effect. The third condition specifies the principle for selecting the conditions which have satisfied the first two conditions. Let us illustrate with an example of the Nyāya system.

When an earthen jar is produced, there are innumerable conditions which are present immediately prior to this effect. Moreover, all of them are, directly or indirectly, related to the locus of the effect. These conditions can be divided into three types. Some of the conditions are such that they are present whenever an effect is produced. Positive causal conditions such as space and time are always present whenever an effect is produced. Hence they are called 'common causal conditions' (*sādhāraṇa kāraṇa*). But there are certain conditions which are present whenever a type of effect such as a jar is produced. The conditions such as the jar-maker, the parts of the jar, the conjunction between the parts of a jar, the wheel, the stick and the thread are present whenever an earthen jar is produced. This type of condition would come under uncommon causal conditions (*asādhāraṇa kāraṇa*). Some of the uncommon causal conditions remain the same for different types of effect. For example, thread is used for making a jar as well as for making a piece of cloth, among many other types of effect. But the set of uncommon causal conditions for one type of effect would never be the same as the set of uncommon causal conditions for another type of effect. Hence the set of causal conditions for making a jar would not be the same as the set of causal conditions for making a piece of cloth. The third type of causal conditions may be called 'unique conditions'. These causal conditions would explain the particularity of the effect as distinct from the effects of the same type. In this example, the particularity of a jar is to be explained in terms of the particularities of its parts. All the parts and the relations of conjunction between the parts are positive unique causal conditions. The not-yet type of absence of the jar would be the negative unique causal condition. Hence the distinction between different types of effect would be drawn in terms of the uncommon causal conditions and the distinction between the effects of the same type in terms of the unique causal conditions.

Now the question is whether the conditions, such as the colour of the stick, stickness, etc., which satisfy the first two conditions in the case of a jar, are to be considered causes of a jar. Similarly, in the case of a particular jar, the conditions, such as the donkey which has brought the clay or the father of the pot-maker, are to be considered causes of it. The Nyāya philosophers have introduced the third condition to eliminate these conditions which satisfy the first two criteria of a cause. The third condition emphasizes the simplicity of a causal condition in relation to other competing conditions. As regards the criteria of simplicity, the Nyāya claims that an entity is simpler than another in respect of quantity, or knowledge, or relation. Let us state these criteria:

- (a) x is simpler than y in respect of quantity iff the limitor of x has less elements than that of y . For example, in the case of perception, both the magnitude of the object (*mahatva*) and being present in its several parts by the relation of inherence (*anekadravya samaveta*) equally satisfy the first two conditions. It is to be noted that in the case of perceptual objects only there is mutual pervader-pervaded relation between them. Since ubiquitous objects such as space and time have magnitude but lack the property of being present in several parts (substances) by the relation of inherence, these two terms do not have the same extension. Moreover, the acceptance of any one of them would explain the occurrence of our perceptual cognitions. Now we have to consider whether one of them is simpler than another in quantity.

The object which is present in several parts (substances) by the relation of inherence is qualified by properties such as manyness, substancehood, the property of being inherence, but the magnitude is qualified by the universal magnitudeness (*mahatvatva*) only in the ontology of the Nyāya. For this reason the latter is simpler than the former. Hence, the latter not the former, is to be considered as a causal condition.

- (b) x is simpler than y in respect of knowledge iff the knowledge of x presupposes less than the knowledge of y . Let us consider the causal conditions of the smell of a flower. According to the Nyāya both the not-yet type of absence of the smell and the not-yet type of absence of the colour of the flower satisfy the first two criteria of a causal condition. It is to be noted that in the ontology of the Nyāya smell resides in the earth only. Hence the not-yet type of absence of smell is a cause of smell. The relation between the absence of smell and the absence of colour is pervader-pervaded. The absence

of smell is the pervaded (*vyāpya*) and the absence of colour is the pervader (*vyāpaka*). Since both of them satisfy the first two criteria of a cause and do not differ in quantity, the question is whether both of them are to be considered causes of smell. On this point the Nyāya claims that the knowledge of the not-yet type of absence of the smell is simpler than that of the not-yet type of absence of the colour. Since we are determining the causal conditions of the smell of a flower, we already know its smell or we know what a smell is. But in order to know the not-yet type of absence of the colour we require the cognition of a colour which we may not have. Again, the knowledge of a colour alone is not sufficient as we are determining the causal conditions of the smell of a flower. Hence we require the knowledge of the smell in addition to the knowledge of the colour. This is how the Nyāya claims that the knowledge of the not-yet type of absence of the smell is simpler than that of the not-yet type of absence of the colour.

- (c) *x* is simple than *y* in respect of relation iff the relation of *x* to the locus of the effect involves fewer relations than the relation of *y* to the locus of the same effect. For example, the relation of the stick to the parts of a jar, which is the locus of the effect, involves fewer relations than the relation of the colour of the stick or the universal stickness to the parts of the same jar. The stick is related to the parts of the jar by the relations *S* and *T*, where *S* is the relation of the stick to the movement of the wheel, and *T* is the relation of the movement of the wheel to the parts of the jar. But the colour of the stick or stickness is related to the parts of the jar by the relations *R*, *S*, and *T*, where *R* is the relation of the colour or stickness to the stick. Here *R* is the relation of inherence in the ontology of the Nyāya. Hence the stick, not its colour or the universal stickness, is considered a causal condition of a jar.

Similarly, the father of the jar-maker and the donkey which has brought the clay are not considered as causal conditions of any jar or a particular jar even if they satisfy the first two criteria of a cause in the case of a particular jar. Since the jar-maker is a simpler condition than his father, the former is to be considered as a causal condition. Similarly, the lump of clay is simpler than the donkey which has brought it. Hence the lump of clay is a causal condition, not the donkey which has brought the clay.

Now let us explain the distinction between the terms '*vyāpāra*' ('operation') and '*karāṇa*' ('special instrumental cause'), which are technical terms of the Nyāya. An operation (*vyāpāra*) is defined in

terms of the relation of one causal condition to another. An operation is itself a causal condition, but it is due to another causal condition (*tajjanyatve sati tajjanyajanakatvam*). Hence it may be defined in the following way:

- (A) x is an operation of the effect E Df $(\exists y)$ (y is a cause or a set of causes of E and x is a cause of E , but x is due to y).

In our above example, the movement of the wheel is due to the stick and the jar is due to the movement of the wheel. For this reason the movement of the wheel is considered an operation. Since the movement is due to the stick, the stick becomes the operation-possessor (*vyāpāravat*). Other intermediary conditions such as the conjunction relation between the stick and the wheel are to be eliminated by applying the third criteria of a causal condition. Since the stick is related to the parts of the jar through this operation and becomes a cause by virtue of this relation, it is called '*kaṛaṇa*' (*vyāpāravat kārāṇaṃ kārāṇam*). Hence *kaṛaṇa* may be defined in the following way:

- (B) x is a *kaṛaṇa* of the effect E Df x is a causal condition, x is related to the locus of E through an operation, and it is considered as a cause due to this relation only.

In this context I would like to mention two more definitions of the word '*kaṛaṇa*' as suggested by the Nyāya philosophers.

- (B') x is a *kaṛaṇa* of the effect E Df x is a cause of E and x is different from the causal conditions which are not directly related to E (*phalāyogavyavacchinnaṃ kārāṇameva kārāṇam*).

This definition emphasizes the direct relationship with the effect. Hence it would refer to what has been referred to by the word *vyāpāra* (operation), although not in the same way. In other words, both of them would have the same reference, but not the same meaning.

Jayanta Bhaṭṭa, a follower of the old Nyāya, has suggested the following definition of '*kaṛaṇa*'.

- (B'') x is a *kaṛaṇa* of the effect E Df x is the totality of causal conditions (*kārāṇasāmagrī*) of E .

Jayanta claims that an effect cannot occur in the absence of any of the causal conditions. Hence every causal condition is equally important and there is no scope for the use of the expression 'auxiliary causal condition' ('*sahakārī-kārāṇa*'). Since the effect occurs when all the causal conditions are together, Jayanta emphasises the togetherness of causal conditions. Hence *kaṛaṇa* is the most important condition

(*sādhakatama*). In this context it is to be noted that according to Jayanta the totality of conditions is not a separate cause over and above its members. Since most of the new Nyāya philosophers have used the word '*kaṛaṇa*' in accordance with the first definition i.e. (B), in our subsequent discussion it will be used in this sense only.

With reference to our example of the jar, two more points are to be noted. Since there are several movements of the wheel, which are due to the stick, there are several operations. Moreover, the wheel is also related to the parts of the pot through the movements which are due to the wheel, and the wheel becomes a cause due to this relation. Hence the wheel is also regarded as a special instrumental cause (*kaṛaṇa*). Therefore, in this case, there are at least two special instrumental causes and several operations. The special instrumental causes are related to the parts of the jar through these operations only. So this is an example of many-many relation between operations and special instrumental causes. According to the Nyāya, all the four types of relation, viz (1) many-many, (2) one-one, (3) many-one, and (4) one-many, hold good between operation and special instrumental cause depending on the examples of causation. The example of jar illustrates the many-many type of relation. The following examples would illustrate the remaining types of relation.

In the case of felling the tree by striking an axe with certain velocity the operation is the contact between the axe and the tree, and the special instrumental cause is the axe. Hence it is an example of one-one relation between an operation and a special instrumental cause. The wood-cutter or the agent is not a special instrumental cause as it is determined by the agent. Hence in determining a special instrumental cause we have to exclude the agent. The agent is simply an instrumental cause (*nimitta-kāraṇa*).

When a piece of cloth is made by conjoining several threads together, the conjunctions between the threads would be the operations and the loom (*vemā*) of the weaver would be the special instrumental cause. So it would be an example of many-one relation between the operations and the special instrumental cause.

The act of cooking is an example of one-many relation between the operation and the special instrumental causes. The fire or the heat would be the operation and the logs of wood or the pieces of coal used in generating this fire would be the special instrumental causes of cooking.

From the above discussion it follows that there is at least one operation and at least one special instrumental cause. It is to be noted that even

in the case of destruction (*dhvaṃsa*), which is a negative effect, there is an operation and a special instrumental cause. Consider the destruction of a jar with a stick. The stick is the instrumental cause and the contact between the jar and the stick with certain velocity is the operation. Hence, according to the Nyāya, every effect, positive or negative, has an operation and a special instrumental cause. The operation is defined in terms of the relation between causal conditions, but the special instrumental cause is defined in terms of the operation and its relation to the locus of the effect. In other words, it is related to the locus through the operation only.

Now it may be asked whether the Nyāya philosophers would accept the operation of an operation. Since they have accepted the cause of a cause in determining the causal conditions of an effect, they might accept the operation of an operation as well. It may also be asked: Why do we need *kaṛaṇa* at all? Is not operation adequate for determining the cause of an effect? In reply, the Nyāya philosophers have put forward two types of argument. As regards the operation of an operation, it is claimed that it would lead to a regress. Hence higher order operations and thereby higher order special instrumental causes of these operations are to be excluded by applying the third property of a causal condition (*ananyathāsiddhatva*). As regards other questions, the Nyāya makes an appeal to ordinary usage. In the case of felling the tree, if we consider the contact between the axe with a certain velocity and the tree as the only cause, then we are going against the ordinary usage. In our ordinary language (parlance) we consider the axe also as a cause. Since the Nyāya philosophers try to retain our ordinary usage as far as possible, they consider axe also as a causal condition. Since it is related to the locus of the effect through the contact which is the operation, it is considered the special instrumental cause (*kaṛaṇa*) of the effect.

Now another objection may be formulated in the following way:

In our above example, the axe is the special instrumental cause (*kaṛaṇa*), and the contact between the axe and the tree is the operation (*vyāpāra*). Both of them are immediately prior to the effect. But in some other examples the special instrumental cause is not immediately prior to the effect. Let us consider the memory-cognition of an object which has been apprehended or perceived sometime ago. According to the Nyāya the previous apprehension (*anubhava*) is the special instrumental cause (*kaṛaṇa*) of the memory-cognition, but it is not present immediately prior to the memory.

In order to answer this type of objection the Nyāya philosophers claim that the special instrumental cause is related to the locus of the effect

through the operation. In the case of memory, the energised disposition (*udbuddha-saṃskāra*) is the operation. Sometimes the word ‘*saṃskāra*’ (‘disposition’) is used to refer to ‘*udbuddha-saṃskāra*’ (‘energised disposition’). It is to be noted that the disposition (*saṃskāra*) is due to some previous apprehension, and the latter is related to the locus of the memory through this disposition. The operation plays the role of a relation, and the previous apprehension becomes one of the relata of this relation. Hence the previous apprehension is present as one of the relata of the operation. Moreover, the previous apprehension is considered as a cause by virtue of this relation only. This interpretation of special instrumental cause (*kāraṇa*) also explains why our moral or immoral actions are to be treated as special instrumental causes. Righteous or morally good actions produce certain results such as happiness or pave the way to liberation (*mokṣa*). Immoral actions would cause suffering or misery. They would create bondage, including rebirth. But these actions, moral or immoral, are not always present immediately prior to their effects. The Nyāya claims that these actions are also related to the locus of their effects through *adṛṣṭa* (merit or demerit). The word ‘*adṛṣṭa*’ literally means ‘unseen’, but as a technical term of the Nyāya it refers to merit or demerit. It is the operation of effects such as happiness or suffering. In other words, righteous actions would produce certain results called ‘merit’ (*puṇya*) which are not amenable to our senses. Similarly, immoral actions produce certain results called ‘demerit’ (*pāpa*) which are not amenable to our senses. These results would eventually produce happiness or suffering. Since the virtuous and the vicious actions are related to happiness or suffering through *adṛṣṭa* (merit or demerit), they are considered as special instrumental causes (*kāraṇas*). This is how the Nyāya philosophers have tried to substantiate the law of karma.

Now let us discuss the Nyāya classification of causal conditions into three different types. The principle of division is the relation between a causal condition and the locus of the effect. Let us consider our example of a jar. Since it resides in its parts, they are its loci. Now we have to consider the relation between a causal condition and the parts of a jar. Since a part of a jar is also a causal condition, it is related to the locus of the jar by the relation of identity. According to the Nyāya a causal condition which is related to the locus of the effect by the relation of identity is an inherent cause (*samavāyī-kāraṇa*). Hence each of the parts of a jar is an inherent cause.

Another type of causal condition is called ‘*asamavāyī-kāraṇa*’. The word ‘*asamavāyī*’ consists of the words ‘*nañ*’ and ‘*samavāyī*’. The

suffix 'nañ' in Sanskrit is used in six different senses. Only some of them signify absence. These senses are the following:

- Similarity (*sādrśya*), for example, *abrāhmaṇaḥ* (similar to a brahmin).
- Absence (*abhāva*), for example, *apāpam* (absence of sin).
- Difference (*bheda*), for example, *aghataḥ* (different from a pot).
- Smallness (*alpatā*), for example, *anudarā* (small tummy).
- Despicable (*aprāśastya*), for example, *akāryam* (despicable act).
- Opposition (*virodha*), for example, *asuraḥ* (that which is opposed to gods or goddesses).

Since *asamavāyī kāraṇa* is similar to *samavāyī kāraṇa*, the suffix 'nañ' signifies 'similarity'. Hence the expression '*asamvāyī kāraṇa*' may be translated as 'similar-to-inherent cause'. It is defined in terms of the relation of inherence, direct or indirect. If a causal condition inheres directly or indirectly in the inherent cause of an effect, it is called 'similar-to-inherent cause'. In the case of a jar, the relation of conjunction between the parts inheres in the locus of the effect, so it is called 'similar-to-inherent cause'. But if we consider the causes of the colour of an object, then the similar-to inherent cause is related to the locus of the effect by two relations, viz., inherence and the converse of inherence. In this context I am using the term 'inherence' for the relation called '*samavetatva*' and 'the converse of inherence' for '*samavāyitva*'. If we consider the colour of a jar as the effect, then its locus is the jar. The colour of the parts of this jar is a causal condition of the colour of the jar. The colour of the parts is related to the parts by the relation of inherence, and the parts are related to the jar by the converse of the relation of inherence. Hence the colour of the parts is related to the jar by the relation of inherence and the converse of inherence.

It is to be noted that both the types of causal conditions in our above two examples are called 'similar-to-inherent causes' for two reasons:

- The inherent cause remains as long as the effect remains. The similar-to-inherent cause also remains as long as the effect remains. It thus shares this feature with the inherent cause.
- The destruction of the inherent cause leads to the destruction of the effect which inheres in it. The similar-to-inherent cause shares this feature also with the inherent cause. Hence the destruction of the similar-to-inherent cause also leads to the destruction of the effect.

The third type of causal condition is called 'instrumental cause' ('*nimitta kāraṇa*'). If a causal condition is related to the locus of the effect by a

relation other than identity, or inherence, or inherence and its converse, then it is an instrumental cause. For this reason the jar-marker, the stick, the wheel, the movement of the wheel, the contact between the movement of the wheel and the clay, etc., are considered instrumental causes of a jar. Hence by drawing the distinction between the inherent cause, the similar-to-inherent cause, and the instrumental cause, the Nyāya philosophers have shown how a causal condition is related to the locus of the effect. This classification throws further light on the relationship between the causal conditions on the one hand, and the relationship between certain causal conditions and the effect on the other.

SECTION IV

In this section I shall mention the Nyāya application of causality to certain epistemic issues such as sources of knowledge.

All the systems of Indian philosophy have discussed the sources of valid cognition or knowledge. Since the sources of valid cognition have been discussed in terms of their causal conditions, the concept of causality plays an important role in understanding epistemic concepts.

As regards the sources of valid cognition there is a substantial difference of opinion among the different schools of Indian philosophy. Perception has been much emphasized as the basic source of valid cognition. The followers of the Cārvāka (a type of materialism) regard perception as the only source of valid cognition. The Vaiśeṣika and the Bauddha systems accept only perception and inference as sources of valid cognition. The followers of Sāṃkhya, Rāmānuja and Bhāsarvajña have accepted perception, inference and verbal testimony. But the Nyāya philosophers have accepted perception, inference, analogy (comparison) and verbal testimony as sources of valid cognition. Since they have drawn the distinction between these sources in terms of their causal conditions, I would like to mention these conditions in this context.

PERCEPTION

As regards perception, the Nyāya claims that there are both a set of positive and a set of negative causal conditions. The perceiver (the self), the internal sense-organ (*manas*), the external sense-organs such as eyes, the objects of perception, the sense-object contact, etc., are positive causal conditions. In addition to these causal conditions there are certain negative causal conditions. In this context it is to be noted

that the Sāṃkhya philosophers have mentioned the following negative causal conditions of perception, some of which have been accepted by the Nyāya:

- (a) Not being too far (*atidūratābhāva*),
- (b) Not being too close (*atisāmīpyābhāva*),
- (c) Absence of loss of sense-organs, such as deafness, blindness, etc. (*indriyanāśābhāva*),
- (d) Not being inattentive (*mano'navasthānābhāva*),
- (e) Not being too subtle (*sūkṣmābhāva*),
- (f) Not having intervening objects such as wall, screen, etc. (*vyavadhānābhāva*),
- (g) Not being overshadowed (or covered) by a more powerful object (*abhibhavābhāva*), e.g., during the day stars are not visible as they are overshadowed by the rays of the sun,
- (h) Not being mixed up with similar objects (*samānābhihārābhāva*), e.g., rain water cannot be perceived in a lake or a river separately as it is mixed up with similar objects.

But the Nyāya philosophers have not treated all of them as negative causal conditions. The third one would be normal sense-organs instead of absence of loss of sense-organs, the fourth one being attentive instead of not being inattentive, and the fifth one having some magnitude (*mahatva*) instead of not being too subtle. The sixth one is to be excluded on the ground that the sense-object contact is a positive causal condition. Hence the Nyāya philosophers would consider only (a), (b), (g) and (h) in the above list as negative.

Now let us discuss the types of causal conditions of a perceptual cognition. Since a cognition inheres in a self, the latter is the inherent cause (*samavāyī-kāraṇa*) of a perceptual cognition. The relation of conjunction (contact) between the mental sense-organ (*manas*) and the self is the similar-to-inherent cause as it inheres in the self. All other causal conditions would be instrumental causes. The sense-object contact is the operation (*vyāpāra*) and the sense-organ is the special instrumental cause (*kāraṇa*). The object of perception is an uncommon instrumental cause; it is neither the operation nor the special instrumental cause. It is a cause by virtue of being the object of perception (*viśayatayā-kāraṇa*).

Instead of considering the self as the locus of perceptual cognition to which all the causal conditions are related the Nyāya considers the object of perception as the locus to which all of them are related. The Nyāya justifies this exception on the ground of simplicity. If we take the object of perception as the locus, then the description of the relations between the causal conditions would be much simpler than if we take

the self as the locus. Hence the word 'locus' in this context does not mean 'substratum'. It simply means something to which both the effect and the causal conditions are related.

The Nyāya philosophers have accepted several types of sense-object contact for the perception of different types of entities. Hence there are several types of operation for the perception of these objects. The following may be considered a comprehensive, but not an exhaustive, list of these relations:

- (1) When we perceive a substance, our sense-organs are related to it by the relation of conjunction (*samyoga*). For example, when we perceive a table, our visual or tactual senses are in contact with it. In this context it is to be noted that for the sake of convenience the expression 'conjunction' (or 'contact') is used to refer to both the conjunction relation of b to a and the conjunction relation of a to b, although the latter is the converse of the former. In the technical language of the Nyāya, the former is called '*samyuktatva*' and the latter '*samyogitva*'.
- (2) The perception of the qualities such as colour or the actions of a substance is causally dependent upon a complex relation of conjunction-cum-the-converse of inherence (*samyukta-samavāya*). The relation of our visual sense-organs to a substance such as a table is conjunction and the relation of a quality of the table such as the brown colour to the table is inherence. If the former relation is called 'R' and the latter 'S', then the relation of the visual sense-organs to the colour of the table would be R/Š. Hence the complex relation R/Š is the relative product of conjunction and the converse of inherence. The relative product R/Š is defined in the following way:

$$x R/\check{S} y \text{ Df. } (\exists z) (x R z \text{ and } z \check{S} y).$$

Our above example would be an instance of it if we substitute visual or tactual sense-organ for the variable 'x', the brown colour for 'y', and the table for 'z'. According to the Nyāya the relative product R/Š is the operation (*vyāpāra*) for the perception of a quality or the action of a substance, or for the perception of the universal which inheres in a substance.

- (3) When we perceive a universal such as redness, of which a red colour is an instance, our sense-organs are related to it by a more complex relation. It is the relation of conjunction-cum-the-converse of inherence and the converse of inherence (*samyukta-samaveta-samavāya*) in the ontology of the Nyāya. Our visual sense-organs

are related to the table by the relation of conjunction. But the universal redness is related to a particular red colour by the relation of inherence in the ontology of the Nyāya. Again, a particular red colour is related to its locus by the relation of inherence. Hence the relation of the locus to its red colour is the converse of inherence and the relation of the red colour to the universal redness is also the converse of inherence. Therefore, the relation of the visual sense-organs to the redness would be $R/\check{S}/\check{S}$, which is the relative product of three relations.

- (4) When we perceive the sound, our auditory sense-organs are related to the sound by the converse of inherence. This is due to the fact that sound resides in *ākāśa* (which is usually translated as 'sky' or 'ether') by the relation of inherence and an auditory sense-organ is *ākāśa* limited by the walls of the outer ear (*karna-śaṣkuli*).
- (5) When we perceive the universal soundness, our auditory sense-organs are related to it by a complex relation. Since the universal soundness resides in a particular sound by the relation of inherence and a particular sound resides in *ākāśa* by the relation of inherence, our auditory sense-organs are related to the universal soundness by the converse of inherence-cum-the converse of inherence (*samaveta-samavāya*). Hence, in symbols, it is to be represented by \check{S}/\check{S} , which is a relative product of two relations.
- (6) When we perceive an absence, our sense-organs are usually related to it by the relation of conjunction-cum-the property of being the qualifier (*saṃyukta-viśeṣaṇatā*). This is due to the fact that the relation between sense-organs such as eyes and an object such as a table is conjunction (*saṃyoga*) and the relation between the table and an absence such as the absence of a cat is the property of being the qualifier (*viśeṣaṇatā*) in the ontology of the Nyāya. In this context it is to be noted that all types of absences, including destruction (no-more type of absence), have some locus or loci. If the cat is not on the table, then the absence of the cat characterises the table. Similarly, when the table is destroyed, the no-more type of absence of the table characterises the parts of the table. Since a destruction which is an effect has only instrumental causes, it cannot reside in its locus by the relation of inherence. An effect which has an inherent cause resides in it by the relation of inherence. For this reason the Nyāya claims that the relation of the locus to the destruction is the property of being the qualifier (*viśeṣaṇatā*) which is a type of self-linking relation (*svarūpa-sambandha*). A self-linking relation, according to the Nyāya, is not a separate ontological entity, distinct

from its relata. It is to be identified either with the first term or with the second term. In general, if a is related to b by a self-linking relation, then it is to be identified with b and the relation of b to a is to be identified with a. Hence the relation of destruction to its locus is to be identified with its locus and the relation of the locus to the destruction is to be identified with the destruction. The latter relation is called '*viśeṣanātā*' ('the property of being the qualifier') and the former '*viśeṣyatā*' ('the property of being the qualificand').

From the above discussion it follows that our sense-organs are related to an absence such as the absence of a cat or the destruction of a table by the relation of conjunction-cum-the property of being the qualifier. But this cannot be universalized to explain the relation between our sense-organ and an absence. When we perceive the absence of a sound, our auditory sense-organs are related to it by the property of being the qualifier (*viśeṣanātā*) relation only. This is due to the fact that our auditory sense-organs themselves are limitations of *ākāśa* where a sound resides. Again, when we perceive the absence of a red colour in a brown table, our visual senses are related to it by a relation which is more complex than the relation of conjunction-cum-the property of being the qualifier (*samyukta-viśeṣanātā*). In this example, the relation of our visual sense-organs to the table is conjunction, the relation of the table to its brown colour is the converse of inherence, and the relation of the brown colour to the absence of red colour is the property of being the qualifier (*viśeṣanātā*). Hence the relation of our sense-organs to the absence of a red colour is the relation of conjunction-cum-the converse of inherence-cum-the property of being the qualifier (*samyukta-samaveta-viśeṣanātā*).

In addition to the sense-object contact, the Nyāya philosophers have accepted the relation of conjunction between the sense-organs and the mind or the internal sense (*manas*) as well as the relation between the mind (*manas*) and the self. These relations are simply causal conditions, neither special instrumental causes (*karaṇas*) nor operations (*vyāpāras*) of perceptual cognitions.

Now the question is whether both the sense-organ and the object are to be treated as special instrumental causes (*karaṇas*). Since the conjunction (contact) which is the operation characterises both the sense-organ and the object, both of them become operation-possessor (*vyāpāravat*). Hence both of them are to be treated as special instrumental causes. On this point the Nyāya philosophers would point out that being operation-possessor (*vyāpāravat*) is a necessary condition but not a sufficient condition for being a special instrumental cause. When the operation-

possessor (*vyāpāravat*) is considered a cause by virtue of this relation only, then it is to be considered a special instrumental cause (*karāṇa*). In the case of perception the sense-organ is related to the locus of perception through this relation only. For this reason it is to be treated as a special instrumental cause (*karāṇa*). The object of perception is also characterised by the same contact, but it is not considered as a cause by virtue of this relation. Its causal role is to be explained by the relation of identity which is much simpler than the relation of operation. Hence on the ground of simplicity the sense-organ alone is considered the special instrumental cause (*karāṇa*).

From our above discussion it follows that there are different types of relations between the sense-organs and the objects of perception. We have mentioned several types of relations, three of them relate our sense-organs to absences. But all of them are concerned with ordinary perceptual cognitions. In addition to these ordinary relations the Nyāya philosophers have postulated three extraordinary relations for the explanation of certain types of perceptual cognitions. These extraordinary relations are called '*sāmānyalakṣaṇa sannikarṣa*' ('universal or the cognition of universal as a relation'), '*jñānalakṣaṇa sannikarṣa*' ('cognition as a relation'), and '*yogaja sannikarṣa*' ('the property produced by yoga as a relation'). Certain other systems of Indian philosophy such as Sāṃkhya, Yoga, and Vedānta have also accepted *yogaja* relation. But the other two types of relations have been accepted by the Nyāya-Vaiśeṣika systems only. In this context it is to be noted that some of the followers of Navya-Nyāya (New Nyāya) such as Raghunātha have rejected both *sāmānyalakṣaṇa* and *yogaja sannikarṣa*. But, in general, the Nyāya-Vaiśeṣika philosophers have accepted all the three types of extraordinary relations for extraordinary perceptual cognitions. Now let us discuss these extraordinary perceptual relations.

(A) *Sāmānyalakṣaṇa-sannikarṣa*

As regards the nature of *sāmānyalakṣaṇa-sannikarṣa* there are two views in the Nyāya literature.

- (1) According to one of them the universal's cognition or the cognised universal (*jñāta-sāmānya*) is the relation which relates our sense-organs to all its instances or loci, past, present and future. Here the word 'universal' ('*sāmānya*') signifies a property which has more than one locus. Hence not only class-characters (*jātis*) such as cowness but also physical objects such as a table are treated as universals. This conception of universal may be defined in the following way:

x is a universal (*sāmānya*) Df $(\exists y) (\exists z)$ (y is a locus of x and z is a locus of x).

When our sense-organs are related to an object which is universal in the above sense through an ordinary perceptual relation, the universal's cognition (or the cognised universal) serves as a relation. This relation relates our sense-organs to all the loci of that universal. When we perceive a cow, our visual sense-organs are related to the individual cow through light rays. For simplicity let us consider this relation to be a case of conjunction between our sense-organs and the cow. Since cowness inheres in a particular cow, our visual sense-organs are related to it through the complex relation of conjunction-cum-the converse of inherence. According to this view the universal's cognition (or the cognised universal), not the cognition of the universal, relates our visual sense-organs to all the loci of cowness. This is how we can cognise all cows, past, present and future, as loci of cowness. In other words, all cows are presented under the mode of cowness. Similarly, when we cognise a table in a room through ordinary perceptual relation, all the loci of it (table) are also cognised through this table's cognition (or cognised table). In this context it is to be noted that in a universal's cognition (or cognised universal) the universal is the qualificand and the cognition is the qualifier. Since a qualified object is dependent upon its qualificand, there cannot be universal's cognition if the universal which is the qualificand ceases to exist. In this context it is also to be noted that, in general, there cannot be a qualified object unless it is qualified by its qualifier which exists. But there are a few exceptions. The existence of an absence or a cognition does not depend upon the existence of its qualifier. It is to be noted that there cannot be the absence of a table in this room unless there is a table. But once an absence is produced, its existence does not depend upon its negatum. Hence the absence of table would exist even if there is no table anywhere. Since the negatum (*pratiyogī*) of an absence is its qualifier, the existence of this type of qualified object does not depend on the existence of its qualifier. Similarly, the existence of a cognition does not depend upon its object, which is its qualifier. But in the case of universal's cognition the universal is the qualificand, not the qualifier of the cognition. Its existence is dependent upon the qualificand as well as upon the qualifier. Now let us consider an impermanent universal (*anitya sāmānya*) such as a table. When it ceases to exist, we cannot cognise its loci which were cognised when it existed. This is due to the fact that its cognition is the relation. Since this relation depends upon the existence of the table and the cognition of table's loci depends upon this relation (i.e.

the table's cognition), we cannot cognise the loci of the table if the table ceases to exist.

- (2) In order to avoid this type of problem the cognition of a universal is considered as the relation. In this case the cognition is the qualificand and the universal is the qualifier. On this view the cognition of a universal exists even if the universal ceases to exist. Hence there will be the cognition of the table when the table no longer exists. This view has been interpreted in two ways. Let us discuss the difference between them.
- (2a) According to the followers of the old Nyāya the cognition of the universal as a qualifier (*sāmānya-prakāra-ñāna*) is the relation which relates our sense-organs to the loci of the universal. According to this view also our sense-organs must be related to the universal and its locus through ordinary perceptual relation. When we perceive a pot, our visual sense-organs are related to it by the relation of conjunction. Since potness resides in a pot by the relation of inherence, our visual sense-organs are related to it by the relation of conjunction-cum-the converse of inherence. Then we have a non-qualificative (*nirvikalpaka*) perception of the pot and the potness. In other words, the pot as such and the universal potness as such are cognised. After this cognition we have a qualificative (*savikalpaka*) cognition of a pot being qualified by potness. In this cognition the pot is the qualificand (*viśeṣya*) and the potness is the qualifier (*prakāra*). This cognition is followed by an extraordinary perception of all the pots which are loci of the universal potness. In this extraordinary perception the second term (*pratiyogī*) would be our visual sense-organs, the first term (*anuyogī*) all the loci of potness, but the special relation would be the cognition of potness as a qualifier. This cognition would also presuppose the ordinary relation of the visual sense-organs to the internal sense-organ called '*manas*' ('mind') and the relation of *manas* to the cognition of potness. But both the perceptual cognition of all the loci of potness and the cognition of potness as a relation are considered extraordinary (*alaukika*). This is due to the fact that the relations of ordinary perception cannot relate our sense-organs to innumerable particulars or all the loci of a universal. The Nyāya philosophers have also accepted an extraordinary perception of all the instances of a universal which resides in a mental state such happiness. When we perceive all the instances of the universal happiness (*sukhatva*), our internal sense *manas* is related to them through the cognition of the universal happiness (*sukhatva*) as a qualifier.

Similar is the case with respect to other types of mental states such as pain.

- (2b) But according to the followers of the new Nyāya the cognition of a universal (*sāmānya-jñāna*) itself is the relation which relates our sense-organs to the loci of the universal. It is claimed to be simpler than the view of the old Nyāya philosophers. Let us explain why it is simpler than the view of the old Nyāya in terms of our previous example of a pot. When we perceive a pot through an ordinary perceptual relation, our sense-organs such as eyes are related to the pot and the potness. Then we have a non-qualificative perception of the pot and the potness. After this perception we have an extraordinary perception of all the pots which are loci of potness. In this extraordinary perception the relation is the non-qualificative perceptual cognition of potness. The object of this non-qualificative cognition cannot be said to be either the qualificand or the qualifier. This follows from the very nature of a non-qualificative cognition. The qualificative cognition of the pot qualified by potness occurs after the non-qualificative cognition of the pot and the potness. Hence the cognition which occurs after the non-qualificative cognition is ordinary with respect to the perception of the particular pot, but extraordinary with respect to the perception of all other pots. As regards the relation, it is ordinary with respect to the particular pot, but extraordinary with respect to all other pots. Unlike the view of the old Nyāya it does not presuppose two separate qualificative perceptual cognitions such that the extraordinary follows the ordinary. There is only one qualificative cognition which follows the non-qualificative cognitive. For this reason it is claimed to be simpler than the view of the old Nyāya philosophers.

Now the question is: Why should we accept this type of extraordinary perceptual relation? In reply, the Nyāya philosophers have put forward the following arguments:

- (a) It is claimed that we cannot explain certain types of dubious cognition unless we postulate this type of relation. A dubious cognition has the form: Is x F or G ?, where x is the property-possessor, F and G are incompatible properties. Hence G could be not F as well. A dubious cognition presupposes the non-dubious cognition of the property-possessor. Hence a person who doubts whether x is F or not F has the non-dubious cognition of x . Now the Nyāya philosophers claim that after having observed the co-presence of smoke and fire in a kitchen or hearth one may doubt whether all

other smokes are accompanied by fire. Hence the doubt takes the form: Are all other smokes accompanied by fire or not?

A doubt of this type presupposes the cognition of all the property-possessors. In this case it presupposes the cognition of all the instances of smokeness. Hence we cannot explain this type of doubt unless we postulate the cognition of the universal as a relation which relates our senses to all the loci or the instances of the universal.

- (b) Secondly, we require the cognition of the invariable concomitance between the probans (*hetu*) and the probandum (*sādhyā*) for an inferential cognition (*anumiti*). Having observed the smoke on the mountain we infer the presence of fire on it. The cognition of smoke being pervaded by fire is the special instrumental cause (*karana*) of this inferential cognition. The cognition of the invariable concomitance between smoke and fire presupposes the cognition of all the particular smokes and all the particular fires. If we postulate *sāmānyalakṣaṇa sannikarṣa* (the cognition of universal as a relation), then we can explain the perception of all the smokes through the cognition of the universal smokeness and all the fires through the cognition of fireness.
- (c) Thirdly, the perception of a generic absence (*sāmānyābhāva*) cannot be explained unless we postulate *sāmānyalakṣaṇa sannikarṣa* (the cognition of a universal as a relation). For example, the cognition of the absence of a cow presupposes the cognition of all the cows. In order to explain the possibility of the latter cognition the Nyāya claims that the cognition of cowness relates our perceptual sense-organs to all the cows which are loci of the universal cowness.
- (d) Similarly, the cognition of a not-yet type of absence cannot be explained unless we postulate *sāmānyalakṣaṇa sannikarṣa* (the cognition of universal as a relation). Let us consider the cognition of the absence of a jar before its production. Since the jar has not yet been produced, we cannot have ordinary perception of it. Hence we have to postulate an extraordinary perception of it. The acceptance of *sāmānyalakṣaṇa sannikarṣa* will explain how we can perceive this jar as well. Since we have perceived all the loci of jariness through the cognition of jariness, we have also perceived the negatum of this absence.

(B) *Jñānalakṣaṇa sannikarṣa* (cognition as a relation)

As the postulation of *sāmānyalakṣaṇa sannikarṣa* solves some of the problems of epistemology, so does the postulation of *jñānalakṣaṇa*

sannikarṣa. Here the word '*lakṣaṇa*' is used to emphasise the fact that the relation is of the nature of cognition. Hence in *jñānalakṣaṇa sannikarṣa* the cognition itself is the relation which relates our sense-organs to its object. It has been postulated by the Nyāya philosophers to solve the following epistemic problems.

- (a) Sometimes we perceive the hardness of a wall or the softness of a flower without touching it. The hardness or the softness of an object is perceived through tactual sense-organ. Similarly, the smell of an object is to be perceived through olfactory sense-organ. But sometimes we perceive the smell of a sandalwood when we look at it from a distance. The Nyāya philosophers are trying to explain this type of perception in terms of *jñānalakṣaṇa sannikarṣa*.

Let us suppose our visual perception of the hardness of the wall is true. The Nyāya philosophers claim that it presupposes our previous perception of the hardness of the wall through tactual sense-organ. When we look at a wall, our visual sense-organs are related to it. But our visual senses cannot be related to its hardness through ordinary perceptual relation. But in the case of a perceptual cognition our sense-organs are to be related to the qualificand as well as the qualifier of it. In this case our visual sense-organs are related through ordinary perceptual relation to the qualificand, but not to the qualifier. In order to relate our visual sense-organs to the qualifier the Nyāya philosophers have made the following suggestion:

When the previous cognition of the instances of hardness is revived in the form of a memory-cognition, it would relate our visual sense-organs to the hardness of the wall. Since it is a case of true perceptual cognition, we have to cognise the hardness which belongs to this wall. The Nyāya philosophers explain this cognition in the following ways:

- (i) If we have cognised the hardness of this wall in the past through our tactual senses, then the memory-cognition of it would relate our visual sense-organs to the hardness which belongs to the same wall. Hence our visual sense-organs are related to the qualifier of perception through an extraordinary relation called '*jñānalakṣaṇa sannikarṣa*'.
- (ii) Another alternative has been suggested to explain this type of perception if we have not cognised the hardness of this wall through an ordinary perceptual relation. This alternative presupposes *sāmānyalakṣaṇa sannikarṣa* (the cognition of universal as a relation) by means of which our tactual sense-organs are related to all the instances of hardness. In other words, we have already cognised all the instances of hardness through the cognition of hardness. Hence we have also cognised the hardness which belongs to this wall. The cognition of the hardness which belongs to this wall is the relation which relates our visual sense-organs to the hardness of the wall. If the cognition of some other hardness is the relation, then we attribute the hardness which does not belong to this wall. If it were so, our cognition of the hardness of the wall would be false. Since we have considered our cognition to be true, this possibility is to be ruled

out. Therefore, the hardness which belongs to the wall has been cognised. This alternative presupposes both *sāmānyalakṣaṇa* and *jñānalakṣaṇa sannikarṣa*.

- (b) Secondly, it is used for the explanation of certain types of perceptual errors. Suppose our perceptual cognition of the table being red is false. According to the Nyāya this presupposes the cognition of the table, a red colour and the relation of inherence which relates a quality to a substance. Since the cognition is false, the table lacks red colour. Hence the red colour which has been cognised in this case does not belong to this table. But it has been cognised elsewhere or elsewhen. The mental disposition (*saṃskāra*) of the previous cognition of a red colour is revived, and the memory-cognition of it is the relation which relates the visual sense-organs to the red colour. The red colour which has been cognised elsewhere or elsewhen is being cognised in the table. Hence *jñānalakṣaṇa sannikarṣa* (cognition as a relation) is required to relate our visual sense-organs to the red colour cognised in the past.

In this context it is to be noted that the Nyāya philosophers have discussed several types of erroneous cognitions, but only one type of perceptual erroneous cognition requires *jñānalakṣaṇa sannikarṣa*. Let us briefly mention the Nyāya classification of erroneous cognitions. First of all, they are divided into two types, namely, errors of apprehension (*anubhavātmaka-bhrama*) and errors of memory-cognition (*smṛtyātmaka-bhrama*). Errors of apprehension have been classified into four types, namely, perceptual (*pratyakṣātmaka*), inferential (*anumityātmaka*), analogical (*upamityātmaka*) and verbal (*śābdātmaka*). This classification is based on the fact that according to the Nyāya perception, inference, analogy and testimony are sources of valid or true cognition. As regards memory-cognition, the Nyāya claims that it is reproductive, not a source of true cognition. Hence if a memory-cognition of a is F is true, then there is a true cognition of apprehension. In other words, the true cognition of a is F is derived from perception, inference, analogy, or testimony. Similarly, if the memory-cognition of a is F is false, then it is derived from perception, inference, analogy, or testimony.

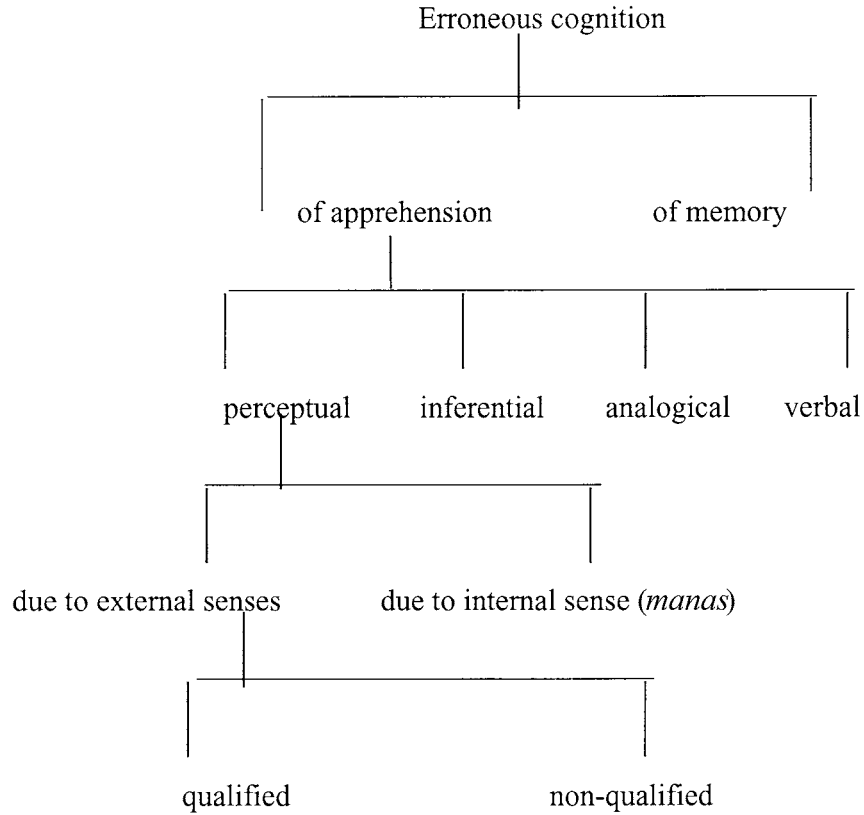
Again, the errors of perceptual cognition are divided into two types. If a perceptual erroneous cognition does not depend upon external sense-organs, then it depends upon internal or mental sense (*manas*). In order to emphasise the dependence upon the mental sense (*manas*) it may be called 'mental perceptual erroneous cognition'. In this case a may be cognised as F even if a has not been cognised as F in ordinary perceptual, inferential, analogical, or verbal cognition. For example, in

dream or in a deliberate cognition of the contradictory (*āhāryajñāna*) a may be cognised as F.

If a perceptual erroneous cognition is dependent upon external sense-organs such as eyes or touch, then it may be called 'external perceptual erroneous cognition'. Most of our perceptual errors would come under this category. Again, it has been divided into two types, namely, qualified (*aupādhika*) and non-qualified (*anaupādhika*). If our senses are related to both a (locus, *adhiṣṭhana*) and F (superimposed, *āropya*) through ordinary relations, then it is called 'qualified error' (*'aupādhika-bhrama'*). On the contrary, if our senses are related to a through ordinary relations but to F through an extraordinary relation, then it is called 'non-qualified error' (*'anaupādhika-bhrama'*). For example, the perception of a snake in a rope, or the perception of a silver in a mother-of-pearl. But the perception of the moon in water or the perception of one's own face in a mirror is a case of qualified external perceptual error. When we perceive the moon in the water, our external senses are related to both the reflection of the moon and the moon through ordinary relations, although directly to the reflection and indirectly to the moon. Similarly, when one perceives one's own face in a mirror, one is directly related to the reflection of the face but indirectly to the face. In the case of any error of reflection, our senses are related to the reflection directly, but to the thing reflected indirectly or via the reflection, although both of them are ordinary relations.

In addition to errors of reflection, there are certain other types of qualified perceptual errors. For example, the taste of molasses as bitter. If it is due to some defect in our bile, then the bitter taste of it is imposed upon the molasses. Here also our senses are related to both the molasses and the bitterness imposed upon it through ordinary relations. Hence in the case of any qualified external perceptual error our senses are related to both the locus and the imposed entity through ordinary relations. But in the case of a non-qualified external perceptual error our senses are related to the locus through ordinary relation, but to the imposed entity through extraordinary relation. For this reason the Nyāya philosophers have postulated *jñānalakṣaṇa sannikarṣa* (cognition as a relation) which relates our senses to the thing imposed upon the locus of error. In the case of perception of a rope as a snake, our external senses are related to the rope through ordinary relation (*laukika-sannikarṣa*), but not to the snake through ordinary relation. The postulation of *jñānalakṣaṇa sannikarṣa* explains how our senses are related to the elsewhere or elsewhere snake through an extraordinary relation. The

Nyāya classification of erroneous cognitions mentioned above may be represented by the following diagram:



- (c) Thirdly, *jñānalakṣaṇa sannikarṣa* is necessary for the explanation of recognition (*pratyabhijñā*). Consider the cognition of This is that Tom. In this cognition the person Tom is characterised by the property of being this (*idantā*) and by the property of being that (*tattā*). The property of being this signifies presentness and being in front of the cogniser. The visual sense-organs of the perceiver are related to Tom as well as these properties of Tom through ordinary perceptual relations. But the property of being that (*tattā*) signifies the property of being present at some past time or at a different place. The visual sense-organs of the cogniser cannot be related to these properties through ordinary perceptual relations. But the Nyāya philosophers claim that our sense-organs are related to the elsewhere or elsewhen Tom through the memory-cognition of Tom. Hence it presupposes a previous cognition of Tom. In this context

it is to be noted that pastness in Tom will be cognised when we are aware of the temporal difference between the memory-cognition and the previous cognition of Tom. Therefore, *jñānalakṣaṇa sannikarṣa* is required for the attribution of pastness or elsewhere-ness to Tom, although Tom is related to the perceiver through ordinary perceptual relation.

- (d) Fourthly, in order to explain a higher order cognition (*anuvyavasāya*) the Nyāya postulates *jñānalakṣaṇa sannikarṣa*. Let us consider a second order cognition. The object of it is both the first order cognition and the object of the latter cognition. Since a higher order cognition is a mental perception, the mental (internal) sense-organ (*manas*) must be related to both the objects of a higher order cognition. Consider the cognition of the cognition of a table. The mental (internal) sense is the special instrumental cause (*karana*) of a higher order cognition. The relation of the internal sense to the object of a higher order cognition is the operation of it. Hence the *manas* must be related to both the cognition of the table and the table. The internal sense *manas* is related to the cognition of the table through the relation of conjunction-cum-the converse of inherence. In other words, the *manas* is related to self (soul) through the relation of conjunction and the self (soul) is related to the cognition of the table through the converse of inherence relation. Now the question is: How can *manas* be related to the table which is an external object? In order to answer this question the Nyāya postulates *jñānalakṣaṇa sannikarṣa*. In this case the cognition of the table itself becomes the relation and the object of this cognition becomes one of the relata of this relation. Hence the *manas* is related to the table through the relation of conjunction-cum the converse of inherence-cum the property being the object of the cognition of the table. Hence the internal sense *manas* is related to the cognition of the table through an ordinary relation, but to the table through an extraordinary relation. In this context it is to be noted that *jñānalakṣaṇa sannikarṣa* need not always be a memory-cognition. In the case of a higher order cognition the lower order cognition itself, not its memory, is the relation. For this reason the cognition of the table itself becomes the relation. Moreover, the object which is one of the relata of this relation becomes its qualifier. Hence the table becomes the qualifier (*viśeṣaṇa*) of the cognition of the table which is the qualifier (*viśeṣaṇa*) of the second order cognition. This is how the table becomes the qualifier of the qualifier of the second order cognition of the table.

- (e) Fifthly, *jñānalakṣaṇa sannikarṣa* is necessary for the perception of any absence. Consider the absence of a cat in this room. In the perception of this absence, our visual sense-organs are related to the room through the relation of conjunction. Since the absence characterises the room, our visual sense-organs are related to it by the relation of conjunction-cum-the property of being the qualifier (*saṃjukta-viśeṣaṇatā*). Since a cat is the qualifier of this absence, our visual sense-organs must be related to it as well. But our visual senses cannot be related to a cat as it is opposed to the absence of a cat. In other words, if there is the absence of a cat, then there cannot be a cat in the same locus by the same relation, and vice versa. For this reason our visual sense-organs cannot be related to a cat through an ordinary perceptual relation, although a cat is a qualifier of the absence of a cat. In this context it is to be noted that the relation of an absence to its negatum is called '*pratiyogitā*' ('the property of being the second term or negatum'). But the relation of the locus of an absence to the absence is called '*viśeṣaṇatā*' ('the property of being the qualifier'), although both the absence and the negatum are qualifiers. In order to distinguish the negatum from other qualifiers of an absence such as the property of being the occurrent on the floor (*bhūtalavṛttitva*) the Nyāya philosophers have used the term '*pratiyogī*'. Hence the relation of the absence of a cat to the property of being the occurrent on the floor is called '*viśeṣaṇatā*' ('the property of being the qualifier') and the converse relation is called '*viśeṣyatā*' ('the property of being the qualificand'), but the relation of the absence of a cat to a cat is called '*pratiyogitā*' ('the property of the negatum or the second term') and the converse relation is called '*anuyogitā*' ('the property of being the first term').

Now the question is: How can our visual sense-organs be related to a cat which is a qualifier of the absence of a cat? The Nyāya philosophers have answered this question by postulating *jñānalakṣaṇa sannikarṣa*. The memory-cognition of a cat relates our visual sense-organs to a cat. Hence our visual senses are related to the absence of a cat through an ordinary relation, but to a cat through an extraordinary relation. From the above arguments it follows that we cannot explain the perceptual nature of certain cognitions unless we postulate *jñānalakṣaṇa sannikarṣa* (cognition as relation).

As regards the relation between *sāmānyalakṣaṇa* and *jñānalakṣaṇa sannikarṣa*, the Nyāya philosophers would emphasise the following points:

- (i) First of all, one cannot be reduced to the other. The *sāmānyalakṣaṇa sannikarṣa* is required for the cognition of all the loci of a universal. The cognition of a universal relates our sense organs, internal or external, to all the loci of it. But *jñānalakṣaṇa sannikarṣa* is required for relating our sense-organs, internal or external, to the object of a cognition, not to the locus or the loci of this object. Since they perform different functions, one cannot be reduced to the other.
- (ii) Secondly, in general, the *jñānalakṣaṇa sannikarṣa* is a memory-cognition. Only in the case of *anuvyavasāya* (cognition of cognition) it may not be a memory-cognition. This is due to the fact that the object of *anuvyavasāya* becomes the *jñānalakṣaṇa sannikarṣa*. Since the object of *anuvyavasāya* could be any type of qualificative cognition, *jñānalakṣaṇa sannikarṣa* may not always be a memory-cognition. It may be a cognition of apprehension (*anubhavātmaka-jñāna*). But in the case of *sāmānyalakṣaṇa sannikarṣa* all the loci of a universal are cognised when we cognise the universal. Hence the memory-cognition of a universal is not necessary for the cognition of its loci.
- (iii) Thirdly, in the case of *jñānalakṣaṇa sannikarṣa* the object of cognition which is the first term of this relation becomes the qualifier, not the qualificand, of the cognition which is due to this relation. In the case of a true visual cognition of the wall being hard, our visual sense-organs are related to the hardness of the wall through the cognition of this hardness, and it becomes the qualifier of the wall. In the case of non-qualified perceptual erroneous cognition also the object to which our senses are related by *jñānalakṣaṇa sannikarṣa* becomes the qualifier of the locus of illusion. Hence, in the case of the false cognition of the table being red, the red colour which is the first term of the *jñānalakṣaṇa sannikarṣa* becomes the qualifier of the table. Our visual senses are related to the table through an ordinary relation but to the elsewhere or elsewhen red colour through a complex relation which includes *jñānalakṣaṇa sannikarṣa*. This relation consists of the following four relations: the relation of our visual senses to the *manas* by the relation of conjunction, the relation of *manas* to the self by the relation of conjunction, the relation of the self to the cognition of a red colour by the converse of inherence relation, and the relation of this cognition to the elsewhere or elsewhen red colour through the property of being the object of this cognition.

Similarly, in the case of recognition the property of being elsewhere or pastness which is the first term of *jñānalakṣaṇa sannikarṣa* becomes

the qualifier of the qualificand of recognition. In the case of a higher order cognition the lower order cognition becomes the relation which relates our internal sense manas to its object. In this case the lower order cognition becomes the qualifier of the higher order cognition, and the object of the lower order cognition becomes its qualifier. Hence the object becomes the qualifier of the qualifier of the higher order cognition. Therefore, the first term of the *jñānalakṣaṇa sannikarṣa* becomes the qualifier of the cognition which is due to this relation. On the contrary, the first term of the *sāmānyalakṣaṇa sannikarṣa* is not a qualifier in the cognition which is due to this relation. The cognition which is due to this relation is of the loci of the universal. In this cognition the loci are qualificands. This is how we can draw the difference between these two types of extraordinary relations.

- (C) The third type of extraordinary perceptual relations is called '*yogaja sannikarṣa*' ('the property produced by yoga as a relation'). It is claimed that the *yogis* can perceive past, present, future, and distant objects. They can also perceive things which are not amenable to our senses (*atīndriya*). In order to explain the extraordinary nature of this type of perception most of the systems of Indian philosophy, including the Nyāya, have postulated an extraordinary relation. *Yogaja* is a type of property which is produced in the self of a *yogī*. This property is due to yogic practice. It serves as a relation which relates the sense-organs of a *yogī* to past, present, future, or distant objects.

From the above discussion it follows that the Nyāya philosophers have accepted three types of extraordinary relations between our sense-organs and objects in order to explain the nature of certain types of perceptual cognitions. These relations are operations (*vyāpāras*) of extraordinary perceptions, and the sense-organs which are related to objects through these relations are considered special instrumental causes (*karaṇas*) of these perceptions.

INFERENCE

The Nyāya philosophers have defined inference in terms of its causal conditions. Let us consider the form of an inference for others, where p is the locus, h is the probans (mark) and s is the probandum:

1. p has s.
2. Because of h.

3. Wherever there is h, there is s, as in a, b, etc.
4. p has h which is pervaded by s (or, h which is related to p is pervaded by s).
5. Therefore, p has s (or, s is present in p).

In this form, s is that which is to be established, p is the locus where there is some doubt about the presence of s or where one would like to infer s, h is the mark by means of which s is to be established. The following would exemplify this form:

- (a) The hill has fire.
- (b) Because of smoke.
- (c) Wherever there is smoke, there is fire, as in kitchen.
- (d) The hill has smoke which is pervaded by fire.
- (e) Therefore, the hill has fire.

Here (e) is the inferential cognition (*anumiti*) which is the effect of certain other cognitions. The Nyāya philosophers have defined the inferential cognition in terms of its causal conditions. Since it is a quality of the cogniser, it inheres in the self (soul) of the cogniser. Hence the self is the inherent cause (*samavāyī-kāraṇa*) of the inferential cognition. The contact (i.e. the relation of conjunction) between the mental sense-organ (*manas*) and the self is its similar-to-inherent cause (*asamavāyī-kāraṇa*). The causal conditions, such as the cognition of invariable concomitance between the probans and the probandum (*vyāptijñāna*), operation (*parāmarśa*) and a special cognitive attitude towards the locus (*pakṣatā*), are instrumental causal conditions (*nimitta-kāraṇas*). The Nyāya philosophers, by and large, have defined an inferential cognition in terms of *parāmarśa* and *pakṣatā*. Hence these terms require some explanation.

Parāmarśa is the *vyāpāra* (operation) of the inferential cognition, and the cognition of the invariable concomitance between the probans and the probandum (*vyāptijñāna*) is the special instrumental cause (*kāraṇa*) of it. *Parāmarśa* is the cognition of the presence of the probans pervaded by the probandum in the locus of the inference. In other words, the probans is cognised to be the second term of a relation of which the first term is the locus of inference and the probans in this cognition is cognised to be pervaded by the probandum. In our above example, *parāmarśa* is represented by (d). Hence the operation is the cognition of the hill having smoke which is pervaded by fire. The cognition expressed by (c) would be the *kāraṇa* of this inferential cognition. In addition to these two conditions, the Nyāya philosophers have accepted *pakṣatā* also as a causal condition of an inferential cognition. The old

Nyāya philosophers define *pakṣatā* as doubt about the presence of the probandum in the locus of inference (*pakṣa*). Hence it is defined in terms of an epistemic attitude of doubt. But the new Nyāya philosophers claim that the desire to infer also leads to the inferential cognition even if there is no doubt about the presence of the probandum in the locus of inference. Therefore, *pakṣatā* is the absence of certainty about the probandum in the locus or the desire to infer the probandum in the locus. From the above discussion it follows that the inferential cognition is the effect, of which both *parāmarśa* and *pakṣatā* are causal conditions.

ANALOGY

Now let us discuss the causal conditions of analogical cognition (*upamiti*). In this cognition we cognise the property of being the referent (*vācyatva*) of an expression in its referent. It takes the following form:

y is the referent of 'x' under the mode y-ness, where 'x' is the expression and y is its referent.

Let us illustrate with an example of the Nyāya philosophers:

- (a) That which is similar to a cow is the referent of the word 'gavaya'.
- (b) This is similar to a cow.
- (c) Gavaya is the referent of the word 'gavaya'.

In this example, (c) is the analogical cognition (*upamiti*). It presupposes the understanding of the meaning of the sentence (a), which the cogniser might have heard from someone else or read in a book. Here (b) represents the perceptual cognition. The inherent and the similar-to-inherent causes would be the same as other types of cognition. In our above example, the special instrumental cause (*karaṇa*) would be the cognition of similarity with a cow in the animal which is being perceived. This cognition would give rise to the memory-cognition of (a). Hence the memory cognition of (a) would be the operation (*vyāpāra*) of the analogical cognition (*upamiti*). In this analogical cognition gavaya which is the referent of the word 'gavaya' is cognised under the mode gavayaness (*gavayatva*), not under the mode of thisness or being similar-to-a cow. For this reason, according to the Nyāya philosophers, it cannot be reduced to an inferential cognition (*anumiti*).

TESTIMONY

Like other sources of cognition, verbal cognition has also been explained in terms of its causal conditions. The verbal cognition lies in cognising the meaning of a sentence or a complex expression. The meaning of a sentence as distinct from the meanings of its terms lies in the relation of the referents of its two terms. Let us consider a sentence of the form 'a is (has) F'. The meaning of this sentence lies in the relation of the referent of 'F' to the referent of 'a'. Hence both the relation and the direction of the relation are important for the Nyāya theory of meaning. For this reason the following sentences do not have the same meaning:

- (i) The pot is on the floor.
- (ii) The floor is pot-possessor (or the floor has a pot).

In this context it is to be noted that according to the Nyāya theory of a sentence any complex expression or a non-atomic well-formed formula is a sentence. Hence expressions, such as 'cooks', 'cooked', 'is cooking', 'cooks rice', 'John cooks rice', 'a king of France', 'the king of France', etc., are considered as sentences in the technical language of the Nyāya.

Now let us consider the conditions for understanding (or cognising) the meaning of a sentence such as 'A flower has a red colour'. Here also the cogniser is the inherent cause (*samavāyī-kāraṇa*) and the relation between the mental sense-organ (*manas*) and the self is the similar-to-inherent cause (*asamavāyī-kāraṇa*). In addition to these conditions, there are certain instrumental causal conditions. The cognition of words which have occurred in a sentence, the cognition of the relation between a word and its referent(s), the memory-cognition of the referent(s), the cognition of syntactic expectancy (*ākāṅkṣājñāna*), the cognition of semantic compatibility (*yogyatājñāna*), the cognition of contiguity of words in space and time (*āsattijñāna*), and the intention of the speaker (*tātparyajñāna*) are considered as instrumental causes. Hence in order to cognise the meaning of the sentence 'A flower has a red colour' the cognition of the relation between 'a flower' and its referent, the cognition of the relation between 'a red colour' and its referent, the cognition of the words which have occurred in this sentence, the memory-cognition of a flower and a red colour, the cognition that this sentence is in accordance with the rules of language, the absence of any preventer cognition, the cognition of the contiguity and the intention of the speaker are necessary as instrumental causal conditions. The new Nyāya philosophers consider the cognition of a word (*padajñāna*) as the special instrumental cause (*kāraṇa*). Hence the cognition of the words

'a flower' and 'a red colour' would be special instrumental causes in our example. The operation (*vyāpāra*) is the memory-cognition of a flower and a red colour. The effect (*kārya*) is the cognition of the relation of a red colour to a flower. Since this relation is inherence in the ontology of the Nyāya, the effect is the cognition of this relation which would relate the red colour to a flower. This is how the Nyāya philosophers have explained the cognitions which are due to words which have occurred in a sentence. This type of cognition also is not reducible to any other types of cognition such as inferential or perceptual.

V

From our above discussion it follows that different schools of Indian philosophy have emphasised different aspects of causality. The Sāṃkhya philosophers have emphasised the material cause (*upādāna-kāraṇa*) and thereby the continuity in the realm of causality. From the nature of the material objects they have postulated one ultimate material cause which is called '*prakṛti*' ('nature'). Since our real self is not part of the inanimate (*jaḍa*) world or nature, it does not come under causality. The knowledge of the nature of the material world and the self would pave the way for liberation (*mokṣa*). The followers of the Yoga system have accepted the Sāṃkhya conception of causality and have suggested detailed methods for attaining liberation. The Bauddha philosophers have emphasised the importance of the principal or primary cause (*mukhya-kāraṇa*) and thereby the one-cause theory. They have also tried to demonstrate how causality leads to momentariness. Since the concept of permanence creates bondage or suffering, the realisation that everything is momentary would lead us to freedom from suffering. Since the self is also momentary, the ultimate freedom (*nirvāna*) lies in the cessation of the series of momentary selves. In other words, it lies in the cessation of the continuity between birth and rebirth. Both knowledge and the cultivation of righteous actions are thus necessary for the attainment of liberation (*nirvāna*).

But the Nyāya philosophers have emphasised the novelty in the realm of causality. The effect is not present in any form in the similar-to-inherent cause or the instrumental cause even if it is present in a subtle form (or in some sense) in the inherent cause (*samavāyī-kāraṇa*). Hence the effect is not present even in the totality of causal conditions. Moreover, the Nyāya philosophers have emphasised the distinction between different types of instrumental causal conditions such as the distinction between *kaṛaṇa* (special instrumental cause) and *vyāpāra*

(operation). They have also classified the causal conditions into different types. In terms of causal conditions they have drawn the distinction between different types of mental states and cognitions. In fact, causality has been used for the explanation of almost everything. Moreover, their formulation and the application of the law of parsimony would be very useful not only in the context of Indian philosophy, but also in the context of philosophy of science as the scientists are guided by the principle of simplicity. The Nyāya philosophers are also concerned with the attainment of liberation. The discussion of causality would give us knowledge about the world. This knowledge is a requirement for certain practical or ethical activities which would lead us to freedom from suffering. Both the theistic and the atheistic systems of Indian philosophy have emphasised the concept of liberation and the methods for achieving it, although not in the same way. Since causality is involved in all the methods for attaining liberation, it is one of the most important topics in any system of philosophy.

NOTE

In this paper I have included some of the discussion from (a) *Sāṃkhyakārikā* of Īśvarakṛṣṇa, and *Tattva-kaumudī* of Vācaspati Miśra, with Bengali translation and commentary by Pandit Purnachandra Vedāntacūñcu-Sāṃkhyabhūṣaṇa, West Bengal Book Board, India, 1983, first published in 1901, (b) *Vaibhāṣika Darśana* of Pandit Anantakumar Nyāyatarkatīrtha, Oriental Book Company, Calcutta, 1955, (c) *Bhāṣāpariśeḍaḍaḥ* with *Siddhāntamuktāvalī* of Viśvanātha, with Bengali translation and commentary by Pandit Panchanan Bhattacharya, Sanskrit Pustak Bhandar, Calcutta, Bengali year 1377, (d) *Bauddha-darśanam*, a commentary on Mādhavācārya's *Sarvadarśana-saṃgraha*, chapter II, with Bengali translation by Pandit Panchanan Bhattacharya, Nava Bharata Publishers, Calcutta, Bengali year 1401, (e) 'Sāṃkhyamata Samikṣā' by Mahāmahopādhyā Jogendranāth Bagchi, in *Tattva o Prayoga*, 1991, (f) *Nyāya-Darśana*, vol III, Phanibhusana Tarkavāgīśa, West Bengal Book Board, India, 1982, (g) *Sāṃkhyadarśanera Vivaraṇa*, Pandit Bidhubhusana Bhattacharya, West Bengal Book Board, India, 1984, (i) *Vedānta-Paribhāṣā* of Dharmarāja, with Bengali translation and commentary by Pandit Panchanana Bhattacharya, Sanskrit Pustak Bhandar, Calcutta, Bengali year 1377, (j) *Paramānu-kāraṇavāda Samikṣā*, Rajanikanta Dolai, Bardhana Press, Calcutta, Bengali year 1389, (k) *Tarkasaṃgraha* with *Dīpikā* of Annambhaṭṭa, with a commentary by Pandit Narayana Chandra Goswami, Sanskrit Pustak Bhandar, Calcutta, Bengali year 1390, (l) *Nyāyadarśane Parāmarśa*, Aruna Chakraborty, Sanskrit Pustak Bhandar, Calcutta, 1978, (m) *Navyanyāye Anumiti*, Sabita Misra, Progressive Publishers, Calcutta, Bengali year 1372, (n) *Padārthatattva-nirūpanam* of Raghunātha Śiromaṇi, with Bengali translation and commentary by Pandit Madhusudana Nyāyācārya, Sanskrit College, Calcutta, 1976, (o) *Sāṃkhyadarśana*, Bhupendranath Bhattacharya, Sanskrit College, Calcutta 1966, (p) *Tattvasaṅgraha* of Śāntarakṣita and Kamalaśīla, translated by G. Jha, Oriental Institute, Baroda, 1937, (q) *Epistemology, logic and grammar in Indian Philosophical analysis*, B.K. Matilal, Mouton, The Hague, 1971, and (r) *Gadādhara's Theory of objectivity*, Part 1, Sibajiban Bhattacharya, Indian Council of Philosophical Research, New Dehli, 1990.

Moreover, I am greatly indebted to Pandit Visvabandhu Tarkatīrtha with whom I have discussed almost all the points mentioned in this paper. Since this research was partly supported by a grant from Internal Research Committee, I would like to thank them.

*Department of Philosophy
Victoria University of Wellington
P.O. Box 600
Wellington
New Zealand*