

COGNITION OF COGNITION
PART I

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Translated from Bengali with Explanatory Notes

The word ‘*anuvyavasāya*’¹ consists of the words ‘*anu*,’ ‘*vi*,’ ‘*ava*,’² the verbal root ‘*ṣo*’ and the suffix ‘*ghañ*.’³ Although the verbal root ‘*ṣo*’ signifies the end of an action, yet the complex *vi + ava +* the verbal root *ṣo* is used to refer to a cognition⁴ which is free from doubt. The suffix ‘*ghañ*’ when used to signify the abstract notion of a verb has no separate meaning other than the meaning of a verbal root which precedes it. Hence the word ‘*vyavasāya*’ which is made out of the words ‘*vi*,’ ‘*ava*,’ ‘*ṣo*’ and the suffix ‘*ghañ*’ together means ‘a cognition which is certain or free from doubt.’⁵ In his commentary on the *Bhagavadgītā* Ācārya Śrīdharasvāmipāda has interpreted the word ‘*vyavasāyātmikā*’ which has occurred in the sentence ‘*Vyavasāyātmikā buddhirekeha kurunandana*’ as ‘*niścayātmikā*’ which means ‘a cognition which is certain.’ Gautama in his sūtra on perception has given the following definition of perception:

(*Indriyārthasannikarṣoṭpannam jñānamavyapadeśyamavyabhicāri vyavasāyātmakam pratyakṣam*) Perception is a cognition which is due to sense-object contact,⁶ and which is non-verbal, non-erroneous and non-dubious.

In his commentary on this sūtra Vācaspatimiśra, who is well-versed in all the systems, has interpreted the word ‘*vyavasāyātmakam*’ as ‘*vyavasāyo viniścayo vikalpa ityanarthāntaram*’ (‘*vyavasāya*’ is an alternate word for ‘*viniścaya*’ which means ‘certain cognition’). From all these ancient uses and the explanation of the word ‘*vyavasāya*’ it may be concluded that this word means a cognition which is free from doubt.

The word ‘*anu*’ means ‘subsequent’ (or ‘successive’). In contexts such as *anukarāna* (imitate), *anuvāda* (translate), *anuja* (younger brother), etc. the word ‘*anu*’ is used to refer to something which has occurred subsequently. Hence the words ‘*anu*’ and ‘*vyavasāya*’ together will

signify a subsequent cognition which is certain. The use of words such as '*paravarti*' ('subsequent') is always dependent. In other words, the utterance of the word 'subsequent' presupposes something else as preceding it (or its predecessor). In reply to the question "what is being signified as the preceding when we use words like '*anu,*' '*paravarti*' etc.?", it is said that the intention of the speaker determines what is being signified as preceding in a particular context. In other words, if the speaker intends *y* to have the property of being the successor of *x*, then *x* is signified as the predecessor and the word '*anu*' signifies the property of being the successor of *x*. When we use the word '*anuvyavasāya*' what is being signified as preceding is a qualificative cognition and nothing other than that. For, the mental perception of the feeling of pleasure or pain which precedes it (the mental perception) is not called '*anuvyavasāya.*' Hence the intended meaning of the word '*anu*' is not the property of being the successor of any mental state. Moreover, the word '*anuvyavasāya*' is used to signify the mental perception of a dubious cognition, which follows a dubious mental state. From this fact it follows that we cannot say that the word '*anuvyavasāya*' signifies only a mental state whose predecessor is free from doubt, because the word '*anu*' which is part of '*anuvyavasāya*' signifies also the property of being the successor of a dubious mental state. Since the word '*anuvyavasāya*' is used to signify the mental perception of any cognition, dubious or non-dubious, perceptual or inferential, the predecessor of this mental perception will be any qualificative cognition.

The above interpretation of the word '*anuvyavasāya*' signifies a cognition which is certain but follows any cognition. But this interpretation is not appropriate. Because it is not used to refer to a memory-cognition which follows an apprehension (*anubhava*),⁷ or an inferential cognition which follows the cognition of an invariable concomitance between two entities, or the cognition of the relation between the referents of expressions which follows the cognition of those expressions. Moreover, the cognition of a cloth, if it follows the cognition of a pot, cannot be referred to by the word '*anuvyavasāya.*'

Now in order to exclude the above-mentioned memory-cognition, inferential-cognition, etc. from the referent of the word '*anuvyavasāya*' it may be suggested that the word '*vyavasāya,*' which is a part of '*anuvyavasāya,*' means a mental perception the object of which is a cognition, and the entire expression '*anuvyavasāya*' means a mental perception the object of which is a cognition which it follows. But this meaning is also not acceptable as it renders the word '*anu*' useless. For the meaning of the expression 'the mental perception of the cognition

which is its object' virtually entails that the mental perception takes place after the occurrence of the cognition. The object of perception must be accepted as one of the causal conditions⁸ for perception, otherwise we have to admit the perception of past or future objects. Hence the cognition which is the object of mental perception is one of the causal conditions for the mental perception. An effect always follows its cause. Since the mental perception of the cognition which is its object entails that the mental perception follows the cognition, the word 'anu,' which signifies the property of being the successor, becomes redundant.

In order to avoid the above objections the meaning of the entire expression 'anuvyavasāya' should be accepted as 'the mental perception of the cognition which is its object.' If we accept this meaning, then the possibility of the above-mentioned inconsistencies are ruled out. According to this view, although the word 'anu' does not have any *independent* meaning, it is not useless because the above meaning cannot be conveyed by the word 'vyavasāya' alone. Or, the word 'vyavasāya' means 'the mental perception of the cognition which is its object' and the word 'anu' is used to signify this intention of the speaker. According to this view also the word 'anu' is not useless or redundant as it signifies the intention of the speaker to convey this secondary meaning of 'vyavasāya'. Hence the meaning of the word 'anuvyavasāya' is to be accepted as 'the mental perception of the cognition which is its object.'⁹

According to the Nyāya, the Vaiśeṣika, and some other systems, the mental perception of a cognition or *anuvyavasāya* is to be accepted in order to reveal a cognition. In this context it is to be noted that among Indian philosophers there are three views about how a cognition is to be revealed (or cognised). These three views are as follows:

1. A cognition reveals itself (or is self-revealing);
2. A cognition is to be inferred from the probans, (or the inferential mark) namely, the property of being cognised;
3. A cognition is the object of a mental perception.

The followers of the Prabhākara Mīmāṃsā, the Vedānta, the Sāṃkhya, the Yoga, the Jaina and the Bauddha systems accept the view that a cognition has the property of being self-revealed. The followers of Bhaṭṭa Mīmāṃsā accept the view that a cognition is to be inferred from the probans, viz., the property of being cognised. The followers of Murārīmiśra Mīmāṃsā, the Nyāya, and the Vaiśeṣika claim that a cognition is to be perceived by the mind.

Now it may be said that the cognition or the revelation of an object is necessary for us to desire to acquire useful objects and desist from acquiring harmful objects. Moreover, the cognition of an object is necessary before we may use it. But the revelation of a cognition or the cognition of a cognition is not needed for anything. Hence what is the need for the discussion whether a cognition reveals itself, or is inferrable or can be perceived? Therefore this discussion should be as useless as the discussion about the nature of the teeth of a crow. In reply, it may be said that as the cognition of a pot or a cloth is necessary before we may use the pot or the cloth, so the cognition of a cognition is necessary before we may use the cognition. We use cognition when we utter sentences like 'I understand what you said,' 'I understand your intention.' If a cognition remains unrevealed, then it cannot be used. Hence the revelation of a cognition is not useless.¹⁰

The upholders of the view that a cognition is self-revealing have raised the following objection against the upholders of the view that a cognition is an object of mental perception. It is said that in order to reveal a cognition, sense-organs, etc., are not needed as causal conditions. Whenever a cognition occurs it reveals itself; a cognition can never remain unrevealed. In other words, as a cognition reveals its object, so does it reveal itself. Hence the conditions which generate a cognition will reveal the same cognition. Since a cognition cannot be revealed by a sense-organ, it is not an object of mental perception. Hence according to this view the mental perception of a cognition or *anuvyavasāya* is impossible.

The supporters of the self-revealing thesis try to use arguments to establish the view that a cognition has the property of being self-revealed. One of the arguments is as follows. Since a cognition reveals its object, its nature is to reveal. If something reveals something else, then it must be capable of revealing itself. If we think that a cognition is needed to reveal another cognition, then we require the cognition of an object such as a pot to reveal a pot, and the cognition of the cognition of a pot to reveal the cognition of a pot, and a third level cognition to reveal the second level cognition; and in this way our life might end with one series of cognitions.¹¹ There will not be any occasion to have cognition of other objects or other mental states such as feelings of pleasure or pain. Hence a cognition cannot be revealed by another cognition. If a cognition which cannot be revealed by another cognition is not self-revealing, then it is not possible to reveal it. The argument used by the supporters of this view is called 'presumption.'¹² Presumption, according to them, is not reducible to an inference, but

it is a source of valid cognition. The presumption takes the following form:

upapādyā: A cognition, which has the property of being revealed, cannot be revealed by another cognition.

upapādaka: A cognition has the property of being self-revealed.¹³

Since the Nyāya and some other philosophers do not admit presumption as a valid source of cognition,¹⁴ it is reduced in the Nyāya to a form of *vyatirekī* (agreement in absence) type of inference¹⁵ which will demonstrate the self-revealing nature of a cognition. The inference takes the following form:

A cognition for its use is not dependent on another cognition, because of the property of being a cognition. If something is not independent of another cognition for its use, then it is not a cognition, for example, a pot, etc.¹⁶ It has already been said that we need the cognition of a cognition in order to use a cognition. Now the question is whether we need another cognition which is different from the cognition which is to be used. The supporters of the self-revealing theory do not think that a cognition is dependent on another cognition for its use. But the upholders of the non-self-revealing theory claim that we need another cognition which is different from the cognition to be used, and the cognition to be used is the object of this other cognition. Moreover, this other cognition is considered as one of the causal conditions for the use of the cognition which is its object. For this reason the supporters of the self-revealing theory have taken resort to the above inference in order to decide whether *another* cognition is needed to use a cognition. The supporters of the self-revealing theory claim that there will not be any fault if we admit that a cognition itself is the agent of its use. But if we admit that another cognition, the object of which is a cognition, is necessary for the use of the first cognition, then the above-mentioned infinite regress will occur. Hence the property of being independent of another cognition for the use of a cognition can be established as the probandum of the above inference.

An objection may be raised against the self-revealing theory in the following way. If a cognition is considered as the agent for its own use, then desire should also be considered as the agent for its use. Hence there is no need to consider the cognition of a desire which is its object and which is different from it for the use of a desire.¹⁷ In reply, it may be said that any use is dependent on a cognition. Hence the use of a

desire will also depend on a cognition. Therefore, the cognition of a desire is indispensable for the use of it.

It cannot be said that any cognition is required for any use. If it were so, then the cognition of a pot would permit the use of a cloth. But this does not happen. Hence we have to say that the cognition of a pot is necessary for the use of a pot, the cognition of a cloth is necessary for the use of a cloth, and so on. In this way by introducing the same object both in the cognition which is the cause and in the use which is the effect, we have to consider a cause-effect relation between a cognition and the use of its object. Hence the cognition of a cognition which is its object is to be admitted for the use of a cognition. The initial cognition of a pot is not the cognition of the cognition of a pot. The cognition of a pot is the object of the cognition of the cognition of a pot. Hence the initial cognition of a pot cannot serve our purpose for the use of the cognition of a pot. One of the causal conditions for its use will be the cognition of the cognition of a pot and the cognition of a pot will be the object of this cognition. Hence we have to admit the cognition of a cognition because the use of a cognition presupposes another cognition, the object of which is the former cognition.

As an answer to this objection the supporters of the self-revealing theory claim that the above cause-effect relation between a cognition and its use simply establishes the view that a cognition, the object of which is a cognition, is necessary; but it does not establish the view that the above cognition (i.e. the cognition the object of which is a cognition) is different from the initial cognition. In fact, according to the supporters of the self-revealing theory, a cognition is its own object. Hence there is no deviation from the cause-effect relation between a cognition and its use as the cognition of an object which is to be used and the cognition which gives rise to this use have the same object (or content).

According to the self-revealing theory a cognition by itself is its own object. The following argument supports this view.

If the cognition of an object is capable of leading to our use of that object, then the cognition is of it (or has it as its object). For example, the cognition of a pot is capable of leading to our use of a pot. Hence this cognition has a pot as its object.¹⁸ Since the cognition of a pot is capable of leading to our use of the cognition of a pot, it is a cognition the object of which is the cognition of a pot. It has already been said that according to the self-revealing theory as the cognition is the agent for the use of an object such as a pot, so the same cognition is the agent for the use of itself (i.e., the same cognition). Since a cognition has

the property of being the agent for its use, it has the property of being its own object. The inference takes the following form: A cognition has the property of being its own object, because it has the property of being the agent for its own use.

The supporters of the non-self-revealing theory claim that this inference, namely, a cognition is independent of another cognition for its use because it has the property of being a cognition, is not free from defects. It suffers from the fallacy called '*bādha*.'¹⁹ (In the case of a *bādha* fallacy the absence of the probandum resides in the subject of inference). When after reading the writings of an author the reader infers the cognition of the author and makes judgements such as 'The author is wise (or very knowledgeable),' then he uses the cognition which inheres in the author. In this case the cognition of the author also comes under the subject of inference (*pakṣa*), but it does not have the property of being independent of another cognition for its use, which is the probandum in question. For, if the reader had not inferred the cognition of the author, he would not have been able to use the cognition of the author. In this case since the use of the cognition of the author is dependent upon the cognition of the reader, it does not have the property of being independent of another cognition. Hence the above inference suffers from the fallacy of *bādha*. Moreover, when we use previous apprehensions in judgments, such as 'I apprehended such and such things in the past,' which are due to memory-cognitions of previous apprehensions, we cannot consider those previous apprehensions as causal conditions for these uses as they are not present immediately before these uses. Hence the memory-cognitions which are different from the cognitions to be used are considered as causal conditions for the use of those apprehensions. Here also those previous apprehensions come under the scope of the subject of inference (*pakṣa*). Since they are dependent on other cognitions for their uses, they do not have the probandum, viz. the property of being independent of other cognitions. Hence such inferences also suffer from the fallacy of *bādha*.

The above fallacy of *bādha* can be prevented if the inference of the self-revealing theory can be altered and formulated in the following way:

The present cognition of a particular person is independent of another cognition of the same person for its use because of the property of being a cognition.²⁰

In this case the *present* cognition of a particular person is the subject of inference (*pakṣa*), and the probandum is the property of being independent of another cognition for the use of the same cognition by

the same person. In the case of the first objection the cognition belonged to the writer, but the use of it was made by the reader. Since the same cognition is not the subject of inference, the fallacy of *bādha* does not occur. In the case of the second counter-example, the cognition to be used is a past one. Since the past cognition does not come within the scope of the subject of inference (*pakṣa*), this inference does not suffer from the fallacy of *bādha* either.

However, according to the supporters of the non-self-revealing theory this inference also cannot avoid all types of fallacies. It suffers from the fallacy of *vyabhicāra*.²¹ For, although the cognition of the above-mentioned author does not come under the scope of the subject of inference (*pakṣa*), it is still the locus of the property of being the cognition which is the probans, and it does not have the property of being independent of another cognition for its use. Therefore, since the property of being the cognition which is the probans is present in the locus of the absence of the probandum, it contradicts the law of invariable concomitance (i.e., the probans become *vyabhicāri*). In the case of the past cognition also the property of being a cognition is present in it, but it does not have the property of being independent of another cognition for its use. Hence the probans deviates from the probandum (*sādhya-vyabhicāri*).²²

Moreover, the supporters of the non-self-revealing theory claim that a cognition can never be its own object. For, whenever anything becomes an object of a cognition, there is something in the object which acts as a causal condition (*prayojaka*) and makes it an object of a cognition. In philosophical language it is called 'the causative of the property of being the object of a cognition.' For example, a pot is the object of the perception of a pot. The sense-contact which is a causal condition for the property of being the object of perception is present in this pot. Similarly, the sense-contact which is a causal condition for the property of being the object of a cognition is present in a cloth when we perceive a cloth. Thus sense-contact in the object becomes a causal condition for the property of being the object of any perception. In the same way we have to explain the property of being an object of an inferential cognition. That which is accepted as the pervader in an operation (*parāmarśa*) becomes the probandum, and that which is taken as the possessor of the probans pervaded by the probandum in an operation (*parāmarśa*) becomes the subject (*pakṣa*) of an inferential cognition. Hence both the subject of inference (*pakṣa*) and the probandum become the objects of an inferential cognition.

In an inferential cognition the relation of this cognition to the probandum is the property of being the probandum (*sādhyatā*) and the relation of this cognition to the subject of inference (*pakṣa*) is the property of being the subject (*uddeśyatā*). Now the property of being the qualificand (*viśeṣyatā*) of an operation (*parāmarśa*) residing in the pervader (*vyāpaka*) is determined by the property of being the qualifier (*prakāratā*) residing in the property of being the pervader (*vyāpakatva*). This property of being the qualificand is a causal condition of the property of being the object of the inferential cognition, and the property of being the object is known as 'the property of being the probandum' (*sādhyatā*).²³ The property of being the object of cognition (*viśayatā*) residing in the possessor of the probans which is pervaded by the probandum in an operation is known as 'the property of being the property-possessor' (*dharmitva*).²⁴ This property is a causal condition of the property of being the object which is known as 'the property of being the subject' (*uddeśyatā*) in an inferential cognition.²⁵

In the case of understanding the meaning of a sentence or complex expression, the property of being the qualificand residing in the referent(s) in the cognition of the word to its referent(s) is a causal condition of the property of being the object residing in the object of understanding the meaning of a sentence.²⁶ Thus in every cognition²⁷ we have to admit a causal condition for the property of being the object of that cognition, otherwise anything could be the object of any cognition. Hence in the case of a visual perception the relation of the visual sense-organ to the object is a causal condition; and this relation is also a casual condition for the property of being the object of the visual perception. Given that this is so, then the visual perception of a pot cannot itself be the object of the visual perception of a pot. For, the visual perception of a pot arises from the contact of visual sense-organ with a pot, and this contact which is a causal condition of the visual perception resides in the pot. The contact with the visual sense-organ can never reside in the visual perception. Hence a visual perception can never be its own object. In favour of this view the supporters of the non-self-revealing theory formulate their inference in the following way:

The visual cognition of a pot is not its own object, because it is not a locus of the contact with the sense-organ which is a causal condition of the visual cognition. For example, a cloth which is not related to (or in contact with) a sense-organ.

Or, the inference may take the following form:

A perceptual cognition is not its own object, because of the absence of the property of being the locus of the relation with sense-organ which is a causal condition of the perceptual cognition.

Now the supporters of the self-revealing theory might claim that as contact with sense-organ is considered as a causal condition of the property of being the object of a perceptual cognition so the self-identity of a cognition might be considered a causal condition of the property of being the object of a cognition. In other words, according to this view, one of the causal conditions of the property of being the object of a perceptual cognition is either the contact with sense-organs which does not reside in the cognition or the self-identity of a perceptual cognition. Although the contact with sense-organs which is a causal condition of perception does not reside in it, a perceptual cognition has self-identity. Hence nothing can prevent a perceptual cognition from being its own object.

But the supporters of the non-self-revealing theory do not consider this argument of the self-revealing theory to be free from defects. The view of the supporters of the self-revealing theory can be stated thus: If it is established that a perceptual cognition is its own object, then the self-identity of it can be considered as a causal condition of the property of being the object of this cognition. But it is doubtful whether a perceptual cognition is its own object. In any dispute a dubious thesis is to be abandoned and by means of an established thesis the cause-effect relation is to be ascertained. Hence we have to admit only the property of being the locus of the contact with the sense-organ (in other words, the contact with the sense-organ) which is non-dubious as a causal condition of the property of being the object of a perceptual cognition. Since the self-identity of a cognition has not yet been established as a causal condition, it cannot be taken as a causal condition. In other words, when one view claims that the causal condition of the property of being the object of a perceptual cognition is either the contact with the sense-organ which gives rise to a cognition or the self-identity of a cognition, and the other view claims that only the contact with the sense-organ is a causal condition of the property of being the object of a perceptual cognition, then those who are not committed to either of the two views would accept that which is common to both the views as the cause-effect relation. The ground for their acceptance is the fact that it is free from any dispute. Hence the self-identity of a cognition cannot be accepted as a causal condition of the property of being the object of a cognition.

Moreover, we have to apply the law of parsimony in this case. When two types of cause-effect relation are possible, but we have to accept either one of them, then the simpler one is to be accepted. In this case one possibility is the contact with the sense-organ or the self-identity of a cognition, and the other possibility is the contact with the sense-organ. On the ground of parsimony we should accept the contact with the sense-organ as a causal condition of the property of being the object of a perceptual cognition, and not the self-identity of this cognition.

EXPLANATORY NOTES

¹ In order to explain the possibility of higher order cognition, the object of which is both the lower order cognition and its object, the Nyaya philosophers postulate an extraordinary relation called '*jñāna-lakṣaṇā-sannikarṣa*' which means 'cognition as a relation.' This relation relates the mental sense organ (*manas*) to the object of a lower order cognition.

In a higher order cognition the immediate lower order cognition is the object. For example, in the cognition of the cognition of a pot, the cognition of a pot itself is the object. This higher order cognition presupposes the relation of the mental sense-organ (*manas*) with the object of this cognition. In this example, the mental sense-organ (*manas*) is related to the cognition of a pot by the relation of conjunction-cum-converse of inherence. Now the question is whether the pot which is the object of the lower order cognition is also an object of the higher order cognition.

The Nyaya philosophers claim that the objects of a lower order cognition are also objects of a higher order cognition. For the pot which is the object of the cognition of a pot is also an object of the cognition of the cognition of a pot. If the pot is also an object of a higher order cognition, then the mental sense-organ must be related to the pot, because, in the Nyāya theory of perception, an external sense-organ is related to an external object when it is perceived. The question is, therefore, how can the mental sense-organ (*manas*) be related to an external object such as a pot?

In order to answer this question the Nyāya philosophers postulate cognition as a relation which relates the mental sense-organ (*manas*) to an external object. In our above example, the cognition of a pot is itself a relation which relates the mental sense-organ (*manas*) to the pot, even if the pot is not present when the higher order cognition occurs. Hence the mental sense-organ (*manas*) is related to the pot by the relation of conjunction-cum-the converse of inherence – cum-the property of being the object of the cognition of a pot. Hence, according to the Nyāya philosophers, in an ordinary perception an external sense-organ is related to the object of perception through an ordinary relation (*laukika sannikarṣa*) such as conjunction or inherence, but in an extraordinary perception a sense-organ is related to its objects through an extraordinary relation. In our above example, the mental sense-organ (*manas*) is related to the pot through the cognition of the pot. Hence in a higher order cognition such as the cognition of the cognition of a pot, the mental sense-organ (*manas*) is related to both our cognition of the pot and the pot itself which is an external object.

² The words '*anu*,' '*vi*,' '*ava*,' etc., are prefixes. When they are applied to a verb, the meaning of the verb will be changed.

³ The suffix '*ghañ*' in such contexts is used to change the form of a verb. For example, the verbal root '*pac*' ('to cook') changes into '*pāka*' ('to cook') when the suffix '*ghañ*' is applied to it. Hence the suffix '*ghañ*' transforms a verbal root into a verb without changing the meaning of it.

⁴ According to the Nyāya, a cognition is either qualificative or non-qualificative. Here the author is talking about a qualificative cognition. A qualificative cognition, according to the Nyāya, has the form 'aRb,' where *a* is the qualificand, *b* is the qualifier, and *R* is the qualification relation between them. According to the Nyāya a qualificative cognition is either dubious or non-dubious. When it is non-dubious, it is called 'certain.' Here 'certain' does not signify any ontological necessity. A cognition which is certain is either true or false.

⁵ Doubt, according to the Nyāya, is a type of invalid (false) cognition. A dubious cognition can be expressed by the form 'Is *x* *F* or *G*?', where *x* is the property-possessor, *F* and *G* are mutually incompatible properties. Since they are mutually incompatible, one of them may be the absence of the other. As regards the number of alternatives in a dubious cognition such as, Is it a stump or a human being?, there is some difference of opinion among the Nyāya philosophers. But all of them have accepted the thesis that a cognition which is dubious consists of at least two alternatives which are mutually incompatible.

The Nyāya has classified doubts into four different types depending upon the causal conditions of their origins. One of them is due to the observation of some common property or properties of the referents of '*F*' and '*G*,' and the non-observation of any specific or unique property of the referents of '*F*' and the referents of '*G*.' For example, Is it a stump or a human being? This type of dubious cognition is due to the observation of some common properties, such as the same or similar height and width, and the non-observation of any unique property which distinguishes a stump from a human being or a human being from a stump. The observation of common properties will give rise to the memory-cognitions of the alternatives which are causal conditions of a dubious cognition.

The second type of dubious cognition is due to the observation of an uncommon property. An uncommon property is something which is known to be not present in the known alternatives. For example, Is sound eternal or non-eternal? In this case soundness is known to be not present in eternal objects such as soul, and in non-eternal objects such as a pot. In this context it is to be noted that in the ontology of the Nyaya sound resides in *ākāśa* (sky or ether) by the relation of inherence. A doubt as to whether sound is eternal or non-eternal presupposes the cognition of some eternal and some non-eternal objects which do not have soundness. If this type of doubt is expressed by the form 'Is *x* *F* or *G*?', then one of the causal conditions of this type of doubt is that *x*-ness or the property of being *x* is not known to be present in the known instances of *F* or *G*.

The third type of dubious cognition is due to the understanding of the meanings of the words which have occurred in contradictory or contrary sentences. This type of doubt will arise in those who are not committed to one of the alternatives or who do not have certain cognition of one of the alternatives. For example, Is self (soul) eternal or non-eternal? The Buddhists claim it to be non-eternal, but the Nyaya philosophers claim it to be eternal. Hence those who are not committed to either of the views will have doubts about the nature of the soul. This type of doubt will also occur in those who do not have certain cognition corresponding to one of the contrary or contradictory sentences.

The fourth type of doubt is due to the doubt about the truth (or the validity) of a cognition. For example, Is the cognition of a table in this room true? Since there is a doubt about the truth of the cognition of a table in this room, there will be a doubt about the presence of a table in this room. Hence the former doubt gives rise to the latter doubt. If the former type of doubt is expressed by the form:

1. Is the cognition of *a* being *F* true (or false)? and the latter type of doubt is expressed by the form;
2. Is *a* *F* (or not)?,

then (1) will imply (2). In other words, the doubt about the truth of a cognition will give rise to a doubt about the content of the cognition.

⁶ In this context it is to be noted that perception or perceptual cognition has been defined in terms of sense-object contact and the property of being non-erroneous (*avyabhicaritva*). Sense-object contact is the operation or operative causal condition (*vyāpāra*) of perceptual cognition, and the sense-organ is a special instrumental cause (*karāṇa*) of it. (The distinction between *karāṇa* and *vyāpāra* has been explained in note 8).

In Gautama's definition non-erroneous is also considered as one of the characteristic features of perceptual cognition. A cognition is non-erroneous if there is a pervasion relation (*vyāpti*) which relates the objects of a cognition to the cognition. In other words, the cognition will be true if it is non-erroneous. The other two conditions, viz., non-verbal (*avyapadeśya*) and non-dubious or qualificative (*vyavasāyātmaka*), are used to classify cognitions into non-qualificative and qualificative (or relational). In a non-qualificative cognition the ultimate relata are cognised as such or without being related to anything else, but in a qualificative cognition they are cognised as being related to other objects. Hence it takes the form 'x R y,' where x is the qualificand, y is the qualifier, and R is the relation of the latter to the former and the converse of R is the relation of the former to the latter. In a non-qualificative cognition x and y are cognised as such if they are ultimate relata.

⁷ The Nyāya use of the word '*anubhava*' ('apprehension') does not apply to memory (or memory-cognition). According to the Nyāya perception, inference, comparison, and testimony (or verbal cognition) are sources of valid cognitions. If a cognition is derived from, or caused by, perception, inference, comparison or verbal cognition (i.e., from the cognition of words which have occurred in a sentence), then it is characterised by the property of being apprehended (*anubhavatva*). Since a memory-cognition lacks the property of being apprehended, it is not a case of apprehension, although it rests upon some previous apprehension derived from, or generated by, perception, inference, comparison, or verbal cognition. A memory-cognition is due to mental (thought) disposition which is again due to some previous apprehension. Since cognitions are divided into apprehension and memory, 'apprehension' may be defined as 'a cognition different from memory.'

Since there are four types of apprehension depending upon their causal conditions, each of them is characterised by a property which signifies whether it is derived from perception, inference, comparisons, or verbal cognition. Hence the apprehension due to perception (or sense-organ) is characterised by the property of being perceptual (*darśanatva*), the apprehension due to inference is characterised by the property of being inferential (*anumititva*), the apprehension due to comparison is characterised by the property of being comparison (*upamititva*), and apprehension due to verbal cognition is characterised by the property of being verbal (*śābdatva*). The property of being the verbal cognition is the property of being the understanding of the relation of the (primary or secondary) referent of a word to the (primary or secondary) referent of another word. Hence this understanding presupposes the cognition of the referent(s) of an atomic expression. According to the Nyāya the properties of different types of cognition are cognised at the level of mental perception or higher order cognition.

A qualificative apprehension is valid (*pramā*) if it corresponds to a fact, otherwise it is invalid (*apramā*). Validity (*pramātvā*) is to be defined in terms of the property of being apprehended (*anubhavatva*) and truth (*yathārthatva*). A memory-cognition will be true if the previous apprehension which is its causal condition is valid. Hence the truth of a memory-cognition presupposes the truth of a previous apprehension. If the previous apprehension does not correspond to a fact, the memory-cognition corresponding to it would be false. Hence a memory-cognition is either true (*yathārtha*) or false (*ayathārtha*). Since the memory-cognitions do not have the property of being

apprehended, they are called 'invalid,' whether true or false. Hence the Nyāya use of the word 'invalid' ('*apramā*') cannot be equated with 'false.'

⁸ In this context it is to be noted that the object of perceptual cognition is one of the causal conditions of perception. Since causality is one of the important conceptions of the Nyāya system and since it has been mentioned in several places in this paper, it requires some explanation. According to the Nyāya system every event has a cause or a set of causal conditions. Hence an event is considered as an effect (*kārya*). An effect (*kārya*) is defined as something which is the negatum (counterpositive) of a not-yet type of absence (*prāgabhāva*). But an event has not been defined in the same way. It is defined in terms of the property of being occurrent in time. It may be stated in the following way:

x is an event *Df* ($\exists t_1$) ($\exists t_2$) (x is related to t_1 , but not to t_2), where t_1 and t_2 are temporal segments.

Hence the definitions of 'effect' and 'event' are not identical, although they have the same referents in the ontology of the Nyāya system. Moreover, the word 'effect' (*kārya*) has been defined, unlike some definitions in Western philosophy, without reference to the word 'cause.'

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

- a) The property being present in the locus of the effect, or the property of being related to the locus of the effect, immediately prior to the effect (*avyavahita pūrvavarttitva*),
- b) the property of being always present (*niyatatva*), and
- c) the property of establishing the effect in a simpler way than other competing condition or conditions (*ananyathāsiddhatva*).

From the first two conditions it follows that if x is a causal condition for the effect E , then x is present immediately prior to E and x is present whenever E occurs. The first condition specifies the temporal sequence, and the second condition specifies the pervader-pervaded relation between them. Since a causal condition is the pervader of the effect, it has the property of being the pervader which is limited by the property of being present immediately prior to the effect. The third condition emphasises the law of simplicity or parsimony in selecting the causal conditions which are equally characterised by the first two conditions, viz., the property of being present immediately prior to the effect and the property of being uniform. Let us illustrate with an example of the Nyāya system:

When an earthen pot is produced there are innumerable conditions which are present immediately prior to this effect. Some of the conditions are such that they are present whenever an effect is produced. The positive conditions such as space and time, which are present whenever an effect is produced, are called 'common causal conditions' ('*sādhāraṇa kāraṇa*'). But there are certain conditions which are present whenever a type of effect such as a pot is produced. The conditions such as the pot-maker, the parts of the pot, the conjunction between the parts of a pot, the potter's wheel, the stick and the thread are present whenever an earthen pot is produced. The conditions of this type are called 'uncommon causal conditions' ('*asādhāraṇa kāraṇa*'). Some of the uncommon causal conditions would vary from one type of effect to another; but the set of uncommon causal conditions for one type of effect would not be the same as the set of uncommon causal conditions for another type of effect. Hence the set of causal conditions for making a pot would not be the same as the set of causal conditions for making a piece of cloth. In addition to these two types of causal conditions, certain unique causal conditions are also present. These unique causal conditions would explain the particularity of

the effect as distinct from the effects of the same type. In our example above, the particularity of a pot is to be explained in terms of the particularities of its parts. Hence in terms of the uncommon causal conditions we can draw the distinction between different types of effect and in terms of the unique causal conditions we can draw the distinction between the effects of the same type.

Now the question is whether the conditions, such as the colour of the stick, stickness, etc. which satisfy the first two causal conditions in the case of a pot, are to be considered causes of a pot. The Nyāya introduces the third condition to eliminate these conditions which satisfy the first two criteria of a cause. This criterion emphasises the simplicity of a causal condition in relation to other competing conditions. Hence the conditions which are simpler than other conditions in certain respect are to be considered as causal conditions. As regards the criteria of simplicity, the Nyāya claims that an object or a property is simpler than another in one of three ways:

- a) An object may be simpler than another in respect of quantity. For example, in the case of perception, both the magnitude of the object (*mahatva*) and the property of being present in its several parts by the relation of inherence (*aneka-samavetava*) equally satisfy the first two conditions. Moreover, the acceptance of any one of them would explain the occurrence of our perceptual cognitions. Now the question is whether one of them is simpler than another in terms of quantity.

The property of being present in many parts by the relation of inherence is qualified by properties such as manyness, inherence, the property of being present, etc., but the magnitude is qualified by the universal magnitudeness only in the ontology of the Nyāya. Hence the latter is simpler than the former. Therefore, the latter, not the former, is to be considered as a causal condition.

- b) An object is simpler than another if the knowledge of the former is simpler than that of the latter. Let us consider the causal conditions of the smell of a flower. According to the Nyāya both the prior absence of the smell and the prior absence of the colour of the flower satisfy the first two criteria of a causal condition; but the knowledge of the prior absence of the smell is simpler than that of the prior 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 prior absence of the colour we require the cognition of a colour which we may not have. Moreover, 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. Therefore, the knowledge of the smell is simpler than the knowledge of the colour or the conjunctive knowledge of the smell and the colour.

- c) An object is simpler than another in respect of relation if the relation of the former to the locus of the effect involves fewer relations than the relation of the latter to the locus of the same effect. For example, the relation of the potter's stick to the parts of a pot, which is the locus of the effect pot, involves fewer relations than the relation of the colour of the stick or the generic property of the stick i.e., stickness to the parts of the same pot. The stick is related to the parts of the pot by the relations *S* and *T*, where '*S*' stands for the relation of the stick to the movement of the wheel, and '*T*' for the relation of the movement of the wheel to the parts of the pot. But the colour of the stick or stickness is related to the parts of the pot by the relations *R*, *S* and *T*, where '*R*' stands for the relation of the colour or stickness to the stick, which is the relation of inherence in the ontology of the Nyāya. Hence the stick, not its colour or stickness, is considered a causal condition for making a pot.

Similarly, the father of the pot-maker and the donkey which has brought the clay for making a pot are not considered as causal conditions of any pot or a particular pot even if they satisfy the first two criteria of a cause in the case of a particular pot. Since the pot-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 the lump of clay. 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 'operation' ('*vyāpāra*') and 'special instrumental cause' ('*karāṇa*'), which are technical terms of the Nyāya system. 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. Hence it may be defined in the following way:

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 pot is due to the movement of the wheel. Hence the relation of the stick to the pot is the movement of the wheel which is due to the stick. 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*). Since the stick is related to the parts of the pot through this operation and becomes a cause by virtue of this relation, it is called '*karāṇa*' ('special instrumental cause'). Hence a *karāṇa* may be defined in the following way:

x is a *karāṇa* 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.

With reference to our above example, 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 (*karāṇa*). Therefore, in this case, there are at least two special instrumental causes and several operations through which special instrumental causes are related to the parts of the pot. So this is an example of many-many relation between operations and special instrumental causes. In this context it is to be noted that, 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. Our above example illustrates the many-many type of relation, but 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 (special instrumental cause) 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*), but not a special instrumental cause (*karāṇa*).

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 might be used to illustrate the 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 according to the Nyāya theory of causation. The operation is defined in terms of the relation between causal conditions, and the special instrumental cause is defined in terms of the operation and the relation between a causal condition and the locus of the effect.

The Nyāya has also classified the causal conditions into three different types. The principle of division is the relation between a causal condition and the locus of the effect. In our first example, a pot is the effect and it resides in its parts. Now we have to consider the relation between a causal condition and the parts of a pot. Since a part of a pot is also a causal condition, it is related to the locus of the effect 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 (*samavāyi-kāraṇa*).

Another type of causal condition known as 'similar-to-inherent cause' (*asamavāyi-kāraṇa*) is defined in terms of the relation of inherence, direct or indirect. If a causal condition inheres in the inherent cause of an effect, it is called 'similar-to-inherent cause.' In our above example, the relation of conjunction between the parts of a pot inheres in the locus of effect. Hence 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, namely, inherence and the converse of inherence. If we consider the colour of a pot as the effect, then its locus is the pot. The colour of the parts of this pot is a causal condition of the colour of the pot. The colour of the parts is related to the parts by the relation of inherence, and the parts are related to the pot by the converse of the relation of inherence. Hence the colour of the parts is related to the pot by the relation of inherence and the converse of inherence.

In this context it is to be noted that both the types of causal conditions in our two examples are called 'similar-to-inherent causes' for two reasons. (a) The inherent cause is not only immediately prior to the effect, but also remains as long as the effect remains. The similar-to-inherent cause shares this feature with the inherent cause. Hence it also remains as long as the effect remains. (b) The destruction of the inherent cause leads to the destruction of the substance which is an effect. Similarly, the destruction of the similar-to-inherent cause leads to the destruction of the substance which is an effect.

The third type of causal condition is called '*nimitta-kāraṇa*' ('instrumental cause'). 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. Hence, in our above example of a pot, the pot-maker, the stick, the wheel, the lump of clay, etc., would be instrumental causes of a pot.

In the case of a perceptual cognition, the perceiver (or the self or the soul), the internal sense-organ (*manas*), the external sense-organs such as eyes, the object(s) of perception, the sense-object contact, etc., are causal conditions. The object of perception is an uncommon causal condition, but it is neither the operation nor the special instrumental cause. The operation is the sense-object contact, and the special instrumental cause is the sense-organ. A perceptual cognition like all other types of cognition occurs in the self (soul) and it is related to the self by the relation of inherence.

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 on the ground of simplicity. If we take the self as the locus of perceptual

cognition to which all the causal conditions are related, then the description of the relations between the locus and the causal conditions would be more complex than if we take the object of perception as the locus, although all of them are related to each other. Hence the word 'locus' in this context does not mean the substratum. It simply means something to which both the effect and the causal conditions are related.

The sense-object contact which is the operation of a perceptual cognition resides in both the sense-organ and the object. But the sense-organ is related to the object through this operation, and is considered as a cause by virtue of this relation. Hence it is the special instrumental cause (*karana*) of perception. The object of perception is also characterised by the same operation, but it is not considered as a cause by virtue of this relation, because the relation of identity which is much simpler than the relation of operation can explain its causal role. Hence on the ground of simplicity sense-organ alone is considered as the special instrumental cause of perception. Since the Nyāya philosophers have explained the difference between different types of cognition or mental phenomena in terms of causation, the terms such as 'operation' and 'special instrumental cause' have special significance in their system.

⁹ In this paragraph the author has suggested two alternatives such that each of them would lead to the conclusion that the word '*anuvyavasāya*' means 'the mental perception of the cognition which is its object.' The first alternative considers the word '*anuvyavasāya*' as one expression and assigns this meaning to it. Since the word '*vyavasāya*' cannot convey this meaning, the expression '*anu*' which is a part of '*anuvyavasāya*' is not useless.

The second alternative considers the word '*anuvyavasāya*' as consisting of the words '*anu*' and '*vyavasāya*.' Since the primary meaning of the word '*vyavasāya*' is 'a qualificative cognition,' it cannot have another primary meaning (*śakyārtha*), viz., 'the mental perception of the cognition which is its object,' unless it is a homonymous expression. Hence the author suggests that the secondary meaning (*lakṣyārtha*) of the word '*vyavasāya*' may be taken as 'the mental perception of the cognition which is its object.' Now the question is how to indicate this secondary meaning of the word '*vyavasāya*.'

According to the Nyāya theory of meaning, in order to indicate a secondary meaning we require either another expression or a context for its use. Here the author claims that the word '*anu*' can be used to signify the fact that the word '*vyavasāya*' has been used in its secondary sense. Since the word '*anu*' signifies this intention of the speaker, it is not useless.

¹⁰ In this paragraph the author has pointed out the utility or the relevance of this topic. The classical Indian philosophers have emphasised the relevance of their discussion. Hence they have introduced different types of relevance and have pointed out the types of relevance between different topics of their systems. The author of this paper has also raised this point in his discussion of the cognition of cognition.

Relevance is a relation between the contents of expressions or sentences *via* some questions. It may be stated in the following way:

If *P* is relevant to *O*, then *O* is an answer to a question *S* which is due to a cognition *T*, and the content of this cognition is the relation of relevance.

The question raised by the author about the utility of our discussion of cognition of cognition would correspond to *S* and the answer would correspond to *O*. The previous discussion about the cognition of an object for its use would correspond to *P*. The content of the cognition which gives rise to the question would be the relation of relevance.

Gaṅgeśa has mentioned six types of relation of relevance. The relevance of the above discussion would come under *upodghāta saṅgati* (justification type of relevance) as the author attempts to justify the relevance of the cognition of a cognition.

¹¹ This argument of the supporters of the self-revealing theory may be presented in the form of a dilemma. If a cognition is required to reveal another cognition, then there is an infinite regress. If there is an infinite regress, then the cognition of anything else is not possible. If, on the other hand, the regress stops at a particular point, then all the previous cognitions would remain unrevealed.

Let us consider the cognition of a pot. In order to reveal this cognition, we require the cognition of this cognition, which is a second level cognition. If the regress stops at the second level cognition, then it remains unrevealed. If it is unrevealed, then the cognition of a pot remains unrevealed. As a result, the pot would not be revealed. Since there are only two alternatives and both of them are unsatisfactory, the non-self-revealing theory is to be rejected.

¹² According to the Mīmāṃsā and the Vedānta presumption (*arthāpatti*) is a valid source of cognition. But according to the Nyāya it can be reduced to an inference. Hence the difference between these two views will depend up the nature or the definition of 'inference.' The well-known example of presumption is the following:

The fat Devadatta does not eat during the day. He eats at night.

The former is called '*upapādya*' ('effected or to be effected'), and the latter '*upapādaka*' ('effecting or causing to occur'). Presumption (*arthāpatti*) is the cognition of *upapādaka* from the cognition of *upapādya*. The cognition of *upapādya* is the *karana* (special instrumental cause) of the cognition of *upapādaka*. The relation between them takes the following form: Unless we accept *upapādaka* we cannot accept *upapādya*. Hence in a sentence, of the form: There cannot be *P* without *O*, *P* is the *upapādya* and *O* is the *upapādaka*. The cognition of this implication is called '*anupapatti*.' The cognition of this implication, if it is true, is the *karana* (special instrumental cause) of the truth of the cognition of *upapādaka*. In other words, the truth of the cognition of *upapādaka* depends upon the truth of *anupapatti* (i.e., the cognition of this implication).

In an inferential form both *upapādya* and *anupapatti* would be premises and *upapādaka* would be the conclusion. Hence the inference takes the following form:

P , and $\sim O \supset \sim P$; therefore O ,

where '*P*' corresponds to *upapādya* and '*O*' to *upapādaka*, and ' $\sim O \supset \sim P$ ' to *anupapatti*. The relation between *upapādaka* and *upapādya* is not always one of causality. In our above example, there is a causal relation between them, but in the following example there is no causal relation between them:

upapādya: Devadatta who is alive is not at home.

upapādaka: He is outside.

However, in all cases, the relation of implication between the absence of *upapādaka* and the absence of *upapādya* will hold good.

¹³ The *anupapatti* (implication) of this presumption would take the following form: The revelation of a cognition cannot be established unless it has the property of being self-revealed.

¹⁴ In this context it is to be noted that there is a substantial difference of opinion among the different schools of Indian philosophy as to the sources of valid cognition. For the Cārvāka (a type of materialist) philosophers, perception is regarded as the only source of valid cognition. The Bauddha and the Vaiśeṣika philosophers accept both perception and inference as sources of valid cognition. The Sāṃkhya, Rāmānuja and Bhāsarvajña accept perception, inference, and verbal testimony; the Nyāya accepts perception, inference, comparison, and verbal testimony. But the followers of the Prabhākara school of Mīmāṃsā accept presumption in addition to the four sources

accepted by the Nyāya. The followers of the Kumārila Bhaṭṭa school of Mīmāṃsā and the Advaita Vedānta accept non-apprehension (*anupalabdhi*) in addition to the previous five sources of valid cognition. The followers of the Purāṇas accept two more, namely, entailment (*sambhava*) and tradition (*aitihya*). The followers of the Tantra accept gesture and posture (*ceṣṭā*) in addition to the eight other sources of valid cognition. The Jaina philosophers have accepted two more sources of valid cognition, namely, the use of a type of counterfactual conditional (*tarka*), and memory (*smṛti*).

Since the Nyāya philosophers do not accept presumption as a source of valid cognition, it is reduced to agreement in absence type of inference (*vyatirekī-anumāna*). Similarly, non-apprehension is reduced to perception, entailment to inference, tradition to verbal testimony, and gesture (or posture) to inference. But *tarka* is not reduced to an inference. It gives rise to an inference and thereby becomes auxiliary to an inference. Similarly, memory is not reduced to some other source of valid cognition. But the truth of a memory-cognition depends upon the truth of a previous apprehension which is derived from perception, inference, comparison, or verbal testimony.

¹⁵ Since presumption is reduced to *vyatirekī* (agreement in absence) type of inference, the Nyāya view of inference and its classification require some explanation in this context. An inference involves three terms, viz., *sādhya*, *pakṣa* (locus of inference), and *hetu*. The term '*sādhya*' refers to what is to be inferred. In other words, it refers to the predicate (*vidheya*, not the *viśeṣana*) of the inferential cognition which corresponds to the conclusion of an inference. The term '*pakṣa*' refers to the locus where there is some doubt about the presence of the *sādhya* (*sandigdha-sādhya-vān pakṣaḥ*). Since the *pakṣa* has *pakṣatā* (a special relational property of the *pakṣa*, which is due to its relationship to a dubious cognition), the term '*pakṣatā*' signifies some doubt about the presence of the *sādhya* in the locus of inference. The term '*hetu*' (or '*liṅga*') refers to the reason by means of which the *sādhya* is inferred in the *pakṣa*. The validity of an inference depends on certain characteristics of the *hetu*. These characteristics have been mentioned in note 19. Since the terms '*sādhya*' and '*hetu*' are usually translated as 'probandum' and 'probans' respectively, we shall follow this convention.

An inference, according to the Nyāya, is a cognition which results from certain other cognitions. Hence it may be defined in terms of its causal conditions. Since an inferential cognition is a quality of the cogniser, it inheres in the self of the cogniser. Hence the cogniser is the inherent cause (*samavāyī-kāraṇa*) of an inferential cognition. Since in the Nyāya system a cognition is due to the contact of the mental sense-organ (*manas*) with the self, the contact (i.e., the relation of conjunction) is the similar-to-inherent cause (*asamavāyī-kāraṇa*) of an inferential cognition.

In addition to these two types of causal conditions, an inferential cognition has certain instrumental causal conditions (*nimitta-kāraṇas*) such as *parāmarśa* (operation), *vyāptijñāna* (the cognition of invariable concomitance between the probans and the probandum), and *pakṣatā* (a special relational property of the locus). An inferential cognition is usually defined in terms of *parāmarśa* (operation) and *pakṣatā* (a special relational property of the locus).

Parāmarśa (operation) is defined as the cognition of the presence of the probans pervaded by the probandum in the locus of the inference. Hence it presupposes the cognition of the invariable concomitance between the probans and the probandum. *Pakṣatā* refers to certain epistemic attitude of the cogniser towards the probandum. The ancient Nyāya defines *pakṣatā* as doubt about the presence of the probandum in the locus of inference (*pakṣa*). But this definition is not acceptable to the modern Nyāya (Navya-Nyāya) philosophers, as the desire to infer leads to inferential cognition even if there is no doubt about the presence of the probandum in the locus. Hence the Navya-Nyāya philosophers define it as the absence of certainty about the probandum

in the locus qualified by the absence of desire to infer. This definition may be explained in terms of the following disjunction:

There is absence of certainty about the probandum in the locus or there is desire to infer the probandum in the locus. Hence this definition rules out the possibility of inferential cognition in a cogniser in the presence of *parāmarśa* (operation) if the cogniser is certain about the presence of the probandum in the locus and there is no desire to infer the probandum in the locus.

The Nyāya philosophers have classified inferences into three types depending upon the nature of the invariable concomitance (*vyāpti*) between the probans and the probandum. Again the probantia (*hetus*) have been divided into three types depending upon the nature of the invariable concomitance. If the rule of invariable concomitance used in an inference takes the form of agreement in presence of the probans with the probandum, then the inference is called '*anvayī*' ('agreement in presence'). If this rule takes the form of agreement in absence, then the inference is called '*vyatirekī*' ('agreement in absence'). And if the rule takes both the forms, then the inference is called '*anvaya-vyatirekī*' ('agreement in presence and absence'). Similarly, the probantia involved in these inferences are divided into three types. The inferences for others would take the following forms if '*p*' stands for the locus, '*h*' for the probans and '*s*' for the probandum.

a) Agreement in presence type of inference:

1. *p* has *s*
2. Because of *h*
3. Wherever there is *h*, there is *s*, and an example in favour of this rule.
4. *p* has *h* which is pervaded by *s* (or, *h* which is present in, or related to, *p* is pervaded by *s*).
5. Therefore, *p* has *s* (or, *s* is present in *p*).

b) Agreement in absence type of inference:

1. *p* has *s*
2. Because of *h*
3. Wherever there is absence of *s*, there is absence of *h*, and an example in favour of this rule.
4. *p* has *h* which is the negatum of the absence which is the pervader of the absence of *s*.
5. Therefore, *p* has *s* (or, *s* is present in *p*)

c) The third type of inference is a combination of a) and b). It refers to both the types of invariable concomitance of the probans with the probandum.

If the rule of invariable concomitance is of the agreement in presence type only, then the inference is called '*kevalānvayī-anumāna*' ('agreement in presence type of inference only'). The probans of this type of inference is called '*kevalānvayī-hetu*' ('agreement in presence type of probans only').

If the rule of invariable concomitance is of the agreement in absence type only, then the inference is called '*kevalavyatirekī-anumāna*' ('agreement in absence type of inference only'). The probans of this type of inference is called '*kevalavyatirekī-hetu*' ('agreement in absence type of probans only').

In the case of inference for oneself all the premises in a) or b) are not needed. What we need is the *parāmarśa* i.e., the fourth member in our above formulation of a) or b) provided *pakṣatā* is present.

¹⁶ In this inference the locus (*pakṣa*) is a cognition, the probans is the property of being a cognition i.e., cognitionhood (*jñānatva*) which is a class-character, and the probandum is the property of being independent of another cognition for the use of it. The inference can be stated in the following way:

1. A cognition has the property of being a cognition i.e., cognitionhood.
2. Wherever there is absence of the property of being independent of another cognition for the use of it, there is absence of the property of being a cognition. For example, a pot.
3. A cognition has the property of being a cognition which is the negatum of the absence which is the pervader of the absence of the property of being independent of another cognition for the use of it.
4. Therefore, a cognition has the property of being independent of another cognition for the use of it.

¹⁷ This objection has been raised by the followers of the non-self-revealing theory. The supporters of the self-revealing theory do not accept another cognition for the use of a cognition, although they accept the cognition of a desire for the use of a desire. Moreover, a desire, according to them, does not necessarily yield the cognition of it. In other words, a desire by itself does not produce the cognition of it. Hence they accept one criterion for cognition and another for desire.

But the supporters of the non-self-revealing theory accept the same criterion for both cognition and desire. Hence, according to them, the cognition of a desire cannot occur simultaneously with the occurrence of a desire. First we have a desire, thereafter we have the cognition of this desire. If the cognition of a desire does not occur just after the occurrence of a desire, then its cognition will not occur later on, as the desire ceases to exist after two moments, namely, the moments of its origination and duration.

If the cognition of a desire occurs, then the memory-cognition of this desire is possible. Hence the cognition of a desire is different from a desire and the latter is a causal condition of the former. Similarly, the cognition of a cognition is different from a cognition, and the latter is a causal condition of the former.

¹⁸ It is to be noted that the Nyāya philosophers would also accept this premise or the truth of this sentence, but not the truth of the remaining sentences of this argument.

¹⁹ This presupposes the Nyāya distinction between valid and invalid (or fallacious) inferences. Since the author mentions different types of fallacies, a discussion on inference might be of some help to the reader.

If the inference is of the agreement in presence and agreement in absence type (*anvya-vyatirekī-anumāna*), and it is used to generate the inferential cognition (*anumiti*) in others, then it is expressed by the following form:

Thesis (*pratiñā*): *a* is *G*.

Reason (*hetu*): because of *F*.

Example (*udāharaṇa*): Wherever there is *F*, there is *G*, as in *b*, etc; and wherever there is absence of *G*, there is absence of *F*, as in *C*, etc.

Application (*upanaya*): *a* has *F* which is pervaded by *G*; or *a* has *F* which is the counterpositive (i.e., negatum) of the absence which pervades the absence of *G*.

Conclusion (*nigamana*): Hence *a* is *G*, or *G* is present in *a*, where *a* is the locus of the inference (*pakṣa*), *F* is the probans, *G* is the probandum, *b* is the locus where *G* is known to be present (*sapakṣa*), and *c* is the locus where the absence of *G* is known to be present (*vipakṣa*).

According to the Nyāya each of the sentences in an inference for others is an answer to a question and each of them except the last one will give rise to a question. Moreover, each of them is used to generate a cognition in the hearer. Since a self-contradictory sentence such as 'a is both *G* and not *G*' cannot generate a cognition, it cannot be used either as a premise or conclusion of an inference. If the inference (not the inferential cognition) is valid (*Nyāya*), then all the sentences must be true

and the conclusion will follow from the premise or the premises. The application (*upanaya-vākya*), which represents the operation (*vyāpāra*) of an inferential cognition (*anumiti*), entails the conclusion.

Invalid inferences (*Nyāyābhāsas*) are divided into two types. One type of invalid inference contains a false premise or premises, but the other type does not contain any false premise. Hence the former may be called 'logically invalid' and the latter 'epistemically invalid,' although the Nyāya uses the word '*nitya*' ('permanent') for the former type of invalidity and '*anitya*' ('impermanent') for the latter type of invalidity. But any inference, valid or invalid, must satisfy the relevance condition. If there is no relevance between the two sentences, then no inference arises.

In an inference for others, all the five sentences are needed, because each of them is an answer to a different question and gives some new information. But in an inference for oneself all of them are not required and there is no need to use a sentence. Hence a deaf and a mute person can also have an inferential cognition. What is required is the operation (*parāmarśa*) which corresponds to the application in our above example and the cognitions which will give rise to this operation.

In our above example the thesis (*pratijñā-vākya*) is an answer to the question what is to be established in *a* (*pakṣa*). *a* is usually considered as something where there is doubt about the presence of the probandum. The reason (*hetu-vākya*) is an answer to the question what signifies the probandum. Hence it states that the probans signifies the probandum. The signifier-significate (*jñāpya-jñāpaka*) relation holds between the objects of two cognitions. The cognition of the signifier (*jñāpaka*) gives rise to the cognition of the significate (*jñāpya*). Hence the reason does not state that the locus *a* (*pakṣa*) is characterised by the probans.

Now it may be asked, why should we consider the probans as the signifier? The answer is given by stating a rule (*vyāpti*) along with some examples which give rise to the cognition of the invariable concomitance between the probans and the probandum (*vyāpti-jñāna*). For this reason the third step is called 'example.' Both the examples of agreement in presence and agreement in absence are to be stated in support of this rule of invariable concomitance. The observation of the presence of the probans and the probandum in some loci and the non-observance of the presence of the probans and the absence of the probandum in some other loci are required for the cognition of the rule of invariable concomitance between the probans and the probandum. The rule takes the form of a universal sentence which can be stated as:

$$(x) (F x \supset G x).$$

As regards the range of the variable *x*, the Nyāya claims that all the loci including *a* in our above example will come under its range, but the cognition of this rule does not entail the cognition of *a* qualified by a unique mode of presentation. Hence *a* (i.e., *pakṣa*) is known as something different from *b* (i.e., *sapakṣa*) and we know that if it has *F*, then it has *G*. Therefore, in order to avoid the inferential circularity (*siddha-sādhana*), the Nyāya claims that the cognition of the rule does not entail the cognition of the inferential locus qualified by *F* and *G*, although the cognition of the rule rests upon the cognition of some of the instances of the rule.

According to another interpretation, the sentence 'Wherever there is *F*, there is *G*' simply states the pervader – pervaded relation between *F* and *G*. It does not refer to any instances or loci of these properties. Hence the rule by itself does not refer to *a*, *b*, or *c* in our above example. But the cognition of the rule, according to both the interpretations, presupposes the observation of the presence of the probans and the probandum in the same loci and the non-observation of the probans in a locus which is characterised by the absence of the probandum. If the cognition of the rule is true, then *F* is pervaded by *G*. In other words, *F* has the property of being pervaded by *G*.

The application (*upanaya-vākya*) is an answer to the question whether *a* (i.e., *pakṣa*) is characterised by this type of *F*. Since the reason does not state that *a* is characterised by *F*, the application gives us some new information about *a*. The reason simply states that *F* is the signifier of *G*. Hence the application gives us some new information which is not already contained in the previous sentences. The conclusion (*nigamana-vākya*) is an answer to the question whether the probandum which is the significate of that type of probans is in *a*. Hence it is an answer to the question whether *G* which is the significate of *F* which is pervaded by *G* is present in *a*. The difference between the thesis and the conclusion lies in the fact that the thesis simply states what is to be established in the locus, but the conclusion states how it is to be established in the locus. The word 'hence' or its synonym in the conclusion means 'the significate of the cognition of the probans.' Hence the conclusion (*nigamana-vākya*) means that *G* which is the significate of *F*, which is pervaded by *G* and is in *a*, is present in *a*. Here the new information lies in the fact that *G* is the significate of that type of *F*.

As regards the utility of operation (*parāmarśa*) which is expressed by application there is some difference of opinion among the different schools of Indian philosophy. The Mīmāṃsā and the Vedānta philosophers claim that there is no need to accept operation (*parāmarśa*) as distinct from the cognition of the presence of probans in the locus (*pakṣadharmatā-jñāna*) and the cognition of the rule of invariable concomitance (*vyāpti-jñāna*) for the inferential cognition. Hence the inferential cognition of the mountain has fire is causally dependent upon the cognitions of wherever there is smoke there is fire and the mountain has smoke.

Now the Nyāya philosophers claim that if the above view is tenable, then there is no difference between the following two inferences as both of them equally satisfy the above two conditions of an inference.

- a) Wherever there is smoke, there is fire. The mountain has smoke. Hence the mountain has fire.
- b) Wherever there is smoke, there is fire. The mountain has light. Hence the mountain has fire.

In this context it is to be noted that both smoke and light are pervaded by fire. Hence both the inferences contain the rule of invariable concomitance and the presence of the probans in the locus. But in b) the inferential cognition will not be generated by these two conditions alone.

In response to this objection the followers of the Mīmāṃsā claim that if the mode of presentation of the probans which resides in the locus is the same as the limiter of the property of being pervaded (*vyāpyatāvachedaka*), then these two conditions will yield the inferential cognition.

In a) smokiness is both the limiter of the property of being the probans (*hetutāvachedaka*) and the limiter of the property of being the pervaded (*vyāpyatāvachedaka*). But in b) lightness is the limiter of the property of being the probans and smokiness is the limiter of the property of being the pervaded. For this reason the cognition of the mountain has fire will not be generated by the cognitions of the presence of the probans in the locus and the rule of invariable concomitance.

Now the Nyāya philosophers raise another objection against this view. Suppose John has the cognition of the presence of the probans in the locus, Tom has the cognition of the rule of invariable concomitance, and the limiter of the property of being the probans cognised by John is the same as the limiter of the property of being the pervaded cognised by Tom. Since all the conditions are satisfied, the inferential cognition will be generated either in John or in Tom. But this does not happen. Hence some additional conditions are needed in support of the view of the Mīmāṃsā.

On this point the supporters of the Mīmāṃsā claim that if a person has cognised the limiter of the property of being the probans in the way he has cognised the limiter of the property of being the pervaded, then he will have the inferential cognition. Hence the above counterexample does not refute the view of the Mīmāṃsā.

Now the Nyāya philosophers raise another objection. It is claimed that the explanation of the Mīmāṃsā goes against the law of parsimony in two ways. First, the causal explanation has reference to persons. Second, since persons are different, the causes of the inferential cognitions would also be different. Hence the instances of the causal law would take the following form:

- If x cognises p and q , then x cognises r ,
 If y cognises p and q , then y cognises r , and so on.

But the causal explanation offered by the Nyāya philosophers does not have any reference to a person. It simply states that the operation (*parāmarśa*) will yield the inferential cognition. In other words, the cognition of a is F pervaded by G will generate the cognition of a is G . Hence the causal explanation of the Nyāya is simpler than that of the Mīmāṃsā.

Moreover, the Nyāya claims that the inferential cognition may be due to the cognition of the locus characterised by something which is pervaded by the probandum (*sadhya-vyāpyavāna-pakṣaḥ*). Hence the cognition of $(\exists x)$ (a has x which is pervaded by G) will yield the inferential cognition a is G . In other words, the cognition of any specific probans is not needed for an inferential cognition. If the Mīmāṃsā philosophers accept it also as a causal condition for an inferential cognition, then they have to accept two separate sets of causal conditions for the same inferential cognition. One of them will be the cognition of the presence of the probans in the locus and the cognition of the rule of the invariable concomitance, and the other one will be the cognition of the locus characterised by something which is pervaded by the probandum.

But the Nyāya philosophers accept only one type of causal condition for an inferential cognition. What is required for an inferential cognition is the cognition of the locus which has a property which is characterised by the property of being the pervaded (*vyāpti-prakāra-pakṣadharmatā-jñāna*). In our above two inferences, the operation 'the mountain has smoke which is pervaded by fire' and the operation 'the mountain has light which is pervaded by fire' satisfy the causal condition of the inferential cognition. Hence either of the operations will yield the inferential cognition 'the mountain has fire.' Moreover, the more generic cognition of the mountain has something which is pervaded by fire also satisfies the above definition of the causal condition for the inferential cognition. Hence it also yields the inferential cognition 'the mountain has fire.'

As regards the nature of the operation which is a cognition, the Nyāya claims that there are different types depending on the source of its origin. It could be perceptual or inferential. In other words, it is derived from perception if the probans is perceived in the locus of the inference. It will be inferential if it is cognised as a conclusion of another inference. Moreover, an operation (*parāmarśa*) may be due to a mental disposition (*saṃskāra*), and thereby it will be a type of memory-cognition. Again, it may be generated by verbal testimony. Hence it may be a case of verbal cognition as well.

As regards the form of an operation, the Nyāya accepts four types of it. As there are two types of rule of invariable concomitance, namely, agreement in presence (*anvya-vyāpti*) and agreement in absence (*vyatireka-vyāpti*), so there are two types of operation, namely, agreement in presence (*anvī-parāmarśa*) and agreement in absence (*vyatirekī-parāmarśa*). Again, each of them may take two different forms at cognitive level. In one case the locus of inference becomes the qualificand, as

in the cognition of the mountain has smoke which is pervaded by fire. In another case, the pervaded becomes the qualificand, as in the cognition of the smoke which is pervaded by fire is on the mountain.

Similarly, the agreement in absence type of operation has two forms. In one case the locus of inference becomes the qualificand, as in the cognition of the mountain has smoke which is the negatum of the absence which pervades the absence of fire. In another case the pervaded becomes the qualificand, as in the cognition of smoke which is the negatum of the absence which pervades the absence of fire is on the mountain.

The Nyāya has also discussed whether the two types of inferential cognition, namely, a is G and G is in a , are derivable from different types of operation. Here we come across two different views:

- A. According to some Nyaya philosophers both the types of inferential cognition are derivable from any of the following four types of operation:
- i) a is F which is pervaded by G . Since the locus is the qualificand in this cognition, it is called 'locus-qualificand type of agreement in presence operation' ('*pakṣa-viśeṣyaka-anvyī-parāmarśā*').
 - ii) F which is pervaded by G is in a . Since the pervaded is the qualificand in this cognition, it is called 'pervaded-qualificand type of agreement in presence operation' ('*vyāpya-viśeṣyaka-anvyī-parāmarśā*').
 - iii) a has F which is the negatum of the absence which pervades the absence of G . Since the locus is the qualificand, it is called 'locus-qualificand type of agreement in absence operation' ('*pakṣa-viśeṣyaka-vyatirekī-parāmarśā*').
 - iv) F which is the negatum of the absence which pervades the absence of G is in a . Since the pervaded is the qualificand, it is called 'pervaded-qualificand type of agreement in absence operation' ('*vyāpya-viśeṣyaka-vyatirekī-parāmarśā*').
- B. According to some other Nyāya philosophers the locus-qualificand type of inferential cognition (*pakṣa-viśeṣyaka-anumiti*) will be generated by the locus-qualificand type of operation (*pakṣa-viśeṣyaka-parāmarśā*), and the probandum-qualificand type of inferential cognition (*sādhyā-viśeṣyaka-anumiti*) will be generated by the pervaded-qualificand type of operation (*vyāpya-viśeṣyaka-parāmarśā*). Hence a is G is derivable from either a is F which is pervaded by G or a has F which is the negatum of the absence which pervades the absence of G . Similarly, G is in a is derivable from either F which is pervaded by G is in a or F which is the negatum of the absence which pervades the absence of G is in a .

Now let us discuss the nature of the probans in a valid inference. If the valid inference is of the agreement in presence and agreement in absence type, then its probans has the following five characteristics:

- (a) It is present in the locus of the inference (*pakṣa*). Hence it has the property of being present in the locus (*pakṣasattva*).
- (b) It is also present in some of the loci which are known to be characterised by the probandum. Hence it has the property of being present in similar loci (*sapakṣasattva*).
- (c) It is not present in those loci which are known to be characterised by the absence of the probandum. Hence it has the property of being absent from dissimilar loci (*vipakṣāsattva*).
- (d) It has no counter-probans (*prati-hetu*) which will demonstrate the absence of the probandum in the locus of the inference. A counter-probans is different from the probans in question and it is pervaded by the absence of the probandum. Hence it has the property of not having a counter-probans (*asatpratipakṣattva*).

- (e) It is different from the probans which can be used to establish the probandum in the locus which is characterised by the absence of the probandum. Hence it has the property of being different from this type of probans (*abādhitattva*).

An inference of the agreement in presence type only (*kevalānvayī-anumāna*) has no dissimilar cases (*vipakṣa*) as examples. In other words, there is no locus which is known to be characterised by the absence of the probandum. For example, this table is knowable, because of nameability. Since there is no locus which is characterised by the absence of knowability, the agreement in absence type of invariable concomitance (*vyatireka-vyāpti*) is not possible. Hence the probans of this type of inference has no *vipakṣāsattva*. But it has the remaining four characteristics of a valid probans (*sad-hetu*). Similarly, an inference of the agreement in absence type only has no similar cases as examples (*sapakṣa*). In other words, there is no locus which is known to be characterised by the probandum. For example, earth is different from other things, because of smell. Since in the Nyāya ontology earth alone has smell and since earth is the locus of the inference (*pakṣa*), there is no example in favour of the rule 'Whatever has smell is different from other things.' Hence the probans of this type of inference has no *sapakṣāsattva*. But it has the remaining four characteristics.

An inference, according to the Nyāya, will be fallacious if the probans lacks one of these characteristics. In other words, if the probantia of the inferences of the agreement in presence and absence type do not have all the five characteristics, and the probantia of the other types of inferences do not have the remaining four characteristics, then they are fallacious. It is to be noted that there are two types of fallacies. One of them would render some of the sentences false and hence the cognitions expressed by those sentences would not correspond to facts. Another type of fallacy would simply prevent the occurrence of doubt free cognitions expressed by the sentences of an inference.

Since the Nyāya has ascribed the term 'fallacy' to the probans of an inference, a fallacious inference is called '*hetvābhāsa*' ('defective probans'). The probans which is free from all the defects will generate a true inferential cognition, and the sentences used to generate the inferential cognition in others will also be true. Hence the validity of an inference will be defined in terms of the presence of these properties in the probans. But an invalid inference will lack some of these properties. Since a probans is used to infer the probandum, the fallacy of an inference has been ascribed to the probans.

A fallacy or *hetvābhāsa* has been defined in the following way:

x is a *hetvābhāsa* iff the true cognition of *x* prevents the occurrence of an inferential cognition (*anumiti*) or the operation (*parāmarśa*) which is the *vyāpāra* of an inferential cognition, where *x* is a qualified object of cognition.

Let us consider a fallacious inference, for example, this lake has fire because of smoke. In this case the inferential cognition *this lake has fire* is false. From the above definition of fallacy it follows that if the person would have known that this lake has no fire, then the inferential cognition would have been prevented. The absence of fire in the lake which is the object of cognition is the defect of the probans. Since smoke is the probans in this inference, it is infected with this defect. Hence, in our above example, the defect is the absence of fire in the lake, and smoke is the object qualified by this defect. Now the question is, how can smoke be qualified by this defect?

The Nyāya philosophers explain the relation between them in terms of the relation of a cognition to its object, which is called '*viśayata*,' and the limiter of the property of being the probans (*hetuāvachchedaka*). In other words, it is explained in terms of a conjunctive cognition such that one of them is the defect and the other one is the

probans. In our above example, one of the objects of this conjunctive cognition would be the lake qualified by the absence of fire and the other one would be smoke.

Since both the objects are objects of the same cognition, the property of being the object of one cognition (*eka-jñāna-viśayatā*) resides in both. The property of being the object of one cognition is not something over and above the property of being the qualificand and the property of being the qualifier residing in the qualificand and the qualifier respectively. Since these properties are determined by the same cognition, the objects of this cognition have the property of being the object of *one* cognition. Hence the objects will be related to each other at epistemic level. This is analogous to the relation between two persons who have the same father. In our above example, since the property of being the object of the conjunctive cognition resides in both smoke and the lake qualified by the absence of fire, they are related to each other. Now the question is whether this relation by itself can uniquely make the lake qualified by the absence of fire the qualifier of smoke which is the probans.

In order to specify the relation of the lake qualified by the absence of fire to smoke, it may be said that the property of being the object of the same conjunctive cognition residing in smoke is limited by a unique property of smoke such as gaseous carbon particles. Now the question is whether this relation of the lake qualified by the absence of fire to smoke is the same as the relation of defect to that which is infected with this defect. If it is considered sufficient, then in the following example a pot would also be infected with this defect. Consider a conjunctive cognition of the lake qualified by the absence of fire and a pot. Here also the property of being the object of the conjunctive cognition resides in both the pot and the lake qualified by the absence of fire. Here also we can specify the property of being the object of the conjunctive cognition residing in the pot in terms of a unique property of the pot such as potness. If this method of specifying the relation were sufficient, then the pot would also be infected with the same defect. And if there is a more complex conjunctive cognition in which the lake qualified by the absence of fire is a conjunct, then all the remaining members would be infected with this defect if the relations were specified.

In order to exclude such cases we have to show that the specific relational property of being the object of the same conjunctive cognition residing in a pot is not the same as the relation of the defect to that which is infected with the defect. Hence it has been proposed that the relation which relates the lake qualified by the absence of fire to smoke is qualified by a property which resides only in the probans. In other words, the limiter of the property of being the probans (*hetutāvacchedaka*) which is smokeness will qualify this relation. Hence the relation of the defect to that which is infected with it will be the property of being the object of the conjunctive cognition qualified by the limiter of the property of being the probans. Since smokeness is the limiter of the property of being the probans, and not the gaseous carbon particle, smokeness will be used to specify the relation of the defect to that which is infected with it. Hence the complex relation in which smokeness is the qualifier will make the lake qualified by the absence of fire, which is the defect, the qualifier of the probans which is smoke.

If we would have known this property of smoke, then we would not have inferred the presence of fire in the lake. Since smoke was used to make this inference, and since this function of smoke will be restricted by our cognition of smoke qualified by the absence of fire in the lake, smoke as a probans is considered defective. In other words, it will fail to perform its function as probans for the above inference.

Now it may be said that the fallacious inference is due to the lack of knowledge about reality. In our above example, the person who infers that the lake has fire does not know that the lake is qualified by the absence of fire. Hence the fallacy is due to this lack of knowledge.

In reply the Nyāya would say that even in a valid inference the person, who infers that the lake has absence of fire, does not know that the lake is qualified by the absence of fire. Here also the person lacks the same knowledge. Hence in terms of the lack of knowledge the distinction between the valid and the invalid inferences cannot be drawn.

From the above discussion it follows that the probans is used to infer the probandum in the locus of an inference. If the inferential cognition or the operation (*parāmarśa*) of an inference is prevented by a valid cognition, then the probans is considered defective and thereby the inference becomes fallacious. Moreover, it also follows that if the cognition of the presence of the probans in the locus (*pakṣadharmatā-jñāna*) or the cognition of the rule of invariable concomitance (*vyāpti-jñāna*) is prevented, then the operation (*parāmarśa*) will also be prevented as the contents of the former two cognitions are necessary for operation. Hence the inference will be fallacious if the cognition of the presence of the probans in the locus or the cognition of the rule of invariable concomitance is prevented by a true cognition. Therefore, the cognition of the defect (*doṣa*) is opposed to the cognition of the presence of the probans in the locus or the cognition of the rule of invariable concomitance or the inferential cognition. If the inference is fallacious, the probans will lack at least one of the characteristics of a valid probans (*sad-hetu*).

Now let us discuss the fallacies which are, according to the Nyāya, due to the defects of the probantia. There are five types of fallacies, viz., (1) *asiddha* (unestablished), (2) *vyabhicāra* (deviation), (3) *viruddha* (opposed), (4) *satpratīpakṣa* (existence of a counter-thesis), and (5) *bādha* (absence of the probandum in the locus).

1. *asiddha* (unestablished): If the probans cannot be established, it is called 'asiddha.' This type of fallacy can occur in five ways:

- a) The locus of the inference (*pakṣa*) is not real. For example, the golden mountain has fire, because of smoke. Here the golden mountain is the locus (*pakṣa*), smoke is the probans, and fire is the probandum. Since the locus is unreal or unexemplified (*aprasiddha*), the probans cannot reside in it. Since the locus cannot be established, this fallacy is called 'āsrayāsiddha' ('unestablished locus').

Here the defect is the absence of gold in the mountain or the mountain not being made of gold. The cognition of this defect is opposed to the cognition of the presence of the probans in the locus (*pakṣadharmatā-jñāna*) and the inferential cognition (*anumiti*). Here the probans lacks the property of being present in the locus (*pakṣasattva*).

The absence of gold in the mountain, which is the defect, is related to smoke in a conjunctive cognition. Since the cognition of this defect will prevent the occurrence of the operation or the inferential cognition, the probans will fail to perform its function. Hence the probans will be considered defective.

- b) The probans does not reside in the locus of the inference, although the locus is real and the probans is real. For example, sound is non-eternal, because of visibility. Here both sound and visibility are real entities, but visibility does not qualify sound. Since the probans cannot qualify the locus of the inference, this type of fallacy is called 'svarūpāsiddha' ('unestablished in the locus').

This type of fallacy is opposed to the cognition of the presence of the probans in the locus (*pakṣadharmatā-jñāna*). Here also the probans lacks the property of being present in the locus (*pakṣasattva*). The defect (*doṣa*) is the absence of visibility in the sound. Hence the cognition of the absence of visibility in the sound would

prevent the occurrence of the operation which contains the presence of probans in the locus.

- c) The probans is unreal or unexemplified, although the locus is real. For example, the mountain has fire, because of golden smoke. In this case the golden smoke which is the probans is itself unreal. Since the probans is unreal, this type of fallacy is called '*hetvasiddha*' ('unestablished probans').

This type of fallacy is opposed to the cognition of the presence of the probans in the locus of inference and the cognition of the rule of invariable concomitance between the probans and the probandum. Since the probans is unexemplified, it cannot have any property of a genuine probans. That is, it lacks all the five properties of a genuine probans (*sad-hetu*). Here the defect (*doṣa*) is the absence of gold in smoke. Hence the cognition of the absence of gold in smoke would prevent the occurrence of the operation (*parāmarśa*) which contains the golden smoke.

- d) Another type of *asiddha* (unestablished) fallacy will occur if the probans of an unexemplified probandum is not present in the locus of an inference. For example, the mountain has golden fire, because of smoke. In this case, smoke is present on the mountain, but not as the probans of the golden fire. Hence this type of fallacy is called '*sādhyāsiddha*' ('unestablished probandum'). Here the probans lacks both *sapakṣasattva* (the property of being present in similar cases) and *vipakṣasattva* (the property of being absent from dissimilar cases).

Here the defect is the absence of gold in fire. Hence the cognition of the absence of gold in fire (i.e., fire not being made of gold) would prevent the cognition of the rule of invariable concomitance between smoke and golden fire and the inferential cognition. Hence the cognition of this defect is opposed to both the operation and the inferential cognition.

- e) There is another type of *asiddha* fallacy. In this case the locus is real, the probans is real and the probans is present in the locus but the probans is not qualified by the property of being the pervaded which is limited by a property. In other words, the probans lacks the property of being the pervaded of the probandum as the property of being the pervaded is not limited by the *appropriate* limiter. It is to be noted that the property of being the pervaded which is a relational property of the probans is limited by a property-limiter, and this limiter also fixes the referent of the 'probans.'

The observation of the co-presence of the probans and the probandum in some loci, and the non-observation of the presence of the probans without the probandum in some other loci are causal conditions for the cognition of the rule of invariable concomitance between the probans and the probandum. Now the mode under which the probans has been cognised becomes the limiter of the property of being the pervaded (*vyāpyatāvaccchedaka*). This type of fallacy will occur when the mode under which the probans has been cognised does not limit the property of being the pervaded which resides in the probans. For example, the mountain has fire, because of blue smoke.

If blue smoke is the probans, then the rule of invariable concomitance would be between blue smoke and fire. The property of being the pervaded residing in blue smoke will be limited by blue smokeness (i.e., blueness and smokeness). But this rule of invariable concomitance cannot substantiate the rule of invariable concomitance between smoke and fire. Hence we have to postulate two rules of invariable concomitance, viz. (i) wherever there is blue smoke, there is fire, and (ii) wherever there is smoke, there is fire. Therefore, there would be two properties of being the pervaded. The property of being the pervaded residing in any smoke will

be limited by smokeness only but the property of being the pervaded residing in blue smoke will be limited by both blueness and smokeness.

Now the question is whether there is any need to postulate two properties of being the pervaded. The postulation of the property of being the pervaded limited by blue smokeness cannot explain the rule of invariable concomitance between any smoke and fire. But the postulation of the property of being the pervaded limited by smokeness only can explain the invariable concomitance between any smoke and fire, and thereby between blue smoke and fire as well. Hence, on the ground of simplicity, the Nyāya philosophers accept only the property of being the pervaded which is limited by smokeness.

Since there is no property of being the pervaded which is limited by blue smokeness and resides in blue smoke, the type of fallacy present in the above inference is called 'vyāpyatvāsiddha' ('unestablished property of being the pervaded'). Here the defect will be the absence of the property of being the pervaded which is limited by blue smokeness and which resides in blue smoke. The cognition of this defect would prevent the cognition of the invariable concomitance between blue smoke and fire. Hence during the observation of the co-presence of smoke and fire we have to cognise smoke, blue or black, under the mode of smokeness alone, because this mode of presentation will be the limiter of the property of being the pervaded. If the blue smoke is not cognised under the mode of smokeness alone, then it will lack the property of being present in *sapakṣa* (similar cases). This is due to the fact that other modes of presentation such as blue smokeness cannot limit (or determine) the property of being the pervaded of fire, which resides in a blue smoke. Hence the property of being present in *sapakṣa* (similar cases) requires not only the presence of the probans in similar cases but also the mode under which it is to be cognised. In this case, blue smoke is present in the locus of fire, but blue smoke lacks the property of being the pervaded limited by blue smokeness. If the mode under which the probans is cognised cannot be the limiter of its property of being the pervaded, then also the probans lacks the property of being present in *sapakṣa*. Hence in this technical sense of the word '*sapakṣasatva*' blue smoke as probans, in our above example, lacks this property. On the contrary, if blue smoke is cognised in *sapakṣa* under the mode of smokeness only, then it will satisfy one of the conditions for the cognition of the rule of invariable concomitance between smoke and fire. Since blue smokeness is not the limiter of the property of being the pervaded, the cognition of the probans under the mode of blue smokeness will prevent the cognition of the rule of invariable concomitance between smoke and fire.

From the above discussion it follows that blue smoke lacks the property of being the pervaded limited by blue smokeness. The cognition of this defect will prevent the cognition of the rule of invariable concomitance between blue smoke and fire, and thereby the operation of this inference.

2. *vyabhicāra* (deviation): There are three types of fallacy of deviation. In all the three cases the cognition of the defect would prevent the cognition of the rule of invariable concomitance between the probans and the probandum.

a) *sādhāraṇa-vyabhicāra* (common deviation): If the probans is present in *pakṣa* (locus of the inference), *sapakṣa* (locus known to be characterised by the probandum) and *vipakṣa* (locus known to be characterised by the absence of the probandum), then this type of fallacy would occur, and the probans is called '*sādhāraṇa-vyabhicāri-hetu*' ('common deviating probans'). For example, the mountain has fire, because of knowability.

Since the probans is present in the locus of the absence of the probandum, the cognition of deviation (*vyabhicāra*) is opposed to the cognition of the invariable concomitance between the probans and the probandum. If we take a lake as *vipakṣa*,

then fire is absent from it, but knowability is present in it. Hence there cannot be a cognition of the invariable concomitance between knowability and fire. Moreover, since there is deviation, the rule of invariable concomitance will not hold good between the probans and the probandum. In this case, the defect (*doṣa*) is the absence of fire in a lake which has knowability. Hence the cognition of this defect will prevent the cognition of the invariable concomitance between knowability and fire. Since the cognition of the invariable concomitance is prevented, the operation will also be prevented. In this fallacy the probans lacks the property of not being present in *vipakṣa*.

- b) *asādhāraṇa-vyabhicāra* (uncommon deviation): If the probans is present in the locus of the inference (*pakṣa*) only, then it is called '*asādhāraṇa-vyabhicārī-hetu*' ('uncommon deviating probans'). In other words, the probans is not present in *sapakṣa* (the locus of the probandum) and in *vipakṣa* (the locus of the absence of the probandum), but is present in *pakṣa* (the locus of the inference). For example, sound is non-eternal, because of soundness.

In this case, sound is *pakṣa*, a non-eternal object such as a pot is *sapakṣa* and an eternal object such as space is *vipakṣa*. Since soundness is not present in a pot, it lacks the property of being present in *sapakṣa*. Since soundness cannot be perceived in non-eternal objects, there cannot be cognition of the agreement in presence type of invariable concomitance between the probans and the probandum. But the probans is absent from the eternal objects. Since the agreement in absence between the probans and the probandum can be observed, the agreement in absence type of invariable concomitance (*vyatireka-vyāpti*) can be cognised.

In this example, the defect is the absence of soundness in a non-eternal object such as a pot, and the probans lacks the property of being present in *sapakṣa*. The cognition of this defect would prevent the cognition of the agreement in presence type of invariable concomitance (*anvaya-vyāpti*). But it will not prevent the cognition of the agreement in absence type of invariable concomitance (*vyatireka-vyāpti*). Since there are two types of invariable concomitance, there would be two types of operation. Since the agreement in presence type of operation depends on the agreement in presence type of invariable concomitance, it will be prevented by the cognition of this defect. But the agreement in absence type of operation which depends on the agreement in absence type of invariable concomitance will not be prevented by the cognition of this defect. Hence the cognition of this type of defect does not prevent the cognition of all types of invariable concomitance or operation. For this reason it may be treated as epistemic fallacy as opposed to a logical one (where some of the sentences are false). In the example above, the sentences would not be false, but we fail to cognise the agreement in presence type of invariable concomitance and thereby the agreement in presence type of operation.

Moreover, this type of epistemic defect can also be removed. In our example, this defect can be removed if there is certainty about the presence of the probandum in some sounds such as the sound of a music. If it were so, then the locus would not be sound in general as it is in the above example, but some specific sounds such as the one which follows lightning. From the observation of the copresence of the probans and the probandum in some loci (*sapakṣa*) and the non-observation of the probans in the locus of the absence of the probandum one may cognise the agreement in presence type of invariable concomitance. Hence the cognition of both the types of invariable concomitance are possible. Again in our example, the defect remains so long as there is doubt about the presence of the probandum in every sound. Since this defect can be removed, it is called '*anitya*' ('impermanent').

- c) *anupasaṃhārī-vyabhicāra* (unsupported deviation): If everything becomes *pakṣa* and thereby the probans does not have either *sapakṣa* or *vipakṣa*,

then the fallacy of *anupasaṃhāri-vyabhicāra* will occur. Let us consider the following two examples.

- (i) Everything is non-eternal, because of knowability.
- (ii) Everything is nameable, because of knowability.

In both (i) and (ii) everything is the locus of inference. There is doubt about the presence of non-eternality in (i) and nameability in (ii). Since everything is *pakṣa*, there is no *sapakṣa* or *vipakṣa*. Since the co-presence of the probans and the probandum cannot be observed, the agreement in presence type of invariable concomitance cannot be cognised. Similarly, since the co-absence of the probans and the probandum cannot be observed, the agreement in absence type of invariable concomitance cannot be cognised. Since neither type of invariable concomitance is cognised, neither the agreement in presence nor the agreement in absence type of operation will occur. Hence this type of fallacy prevents the occurrence of any type of operation which is necessary for an inferential cognition. Since there is neither *sapakṣa* nor *vipakṣa*, the probans lacks both the property of being present in *sapakṣa* and the property of being absent from *vipakṣa*.

As regards the nature of this fallacy, it is not logical, but epistemological. If a person does not have doubt about the presence of the probandum in everything, then this epistemic defect can be removed. From the observation of the co-presence of the probans and the probandum and the non-observation of deviation, one will have the cognition of the invariable concomitance between them. In (i), if everything ceases to be *pakṣa*, then the cognition of the invariable concomitance may be possible on the basis of the observation of co-presence and non-observation of deviation. But this cognition will be false as there are eternal objects such as space and time which are knowable in the Nyāya system. Hence there will be another type of fallacy.

In (ii) if everything ceases to be *pakṣa*, then the cognition of the invariable concomitance between knowability and nameability will be possible from the observation of co-presence and the non-observation of deviation. Moreover, the cognition of invariable concomitance will be true as the invariable concomitance holds good in the Nyāya system, and the inference will be valid.

From the above discussion it follows that this type of defect can also be removed. Hence it is also epistemological, not logical. It is due to the fact that the person in question has doubt about everything and as a result he cannot cognise the invariable concomitance. This type of defect will last so long as there is doubt about the presence of the probandum in everything.

From the above discussion of three types of fallacies of deviation, it follows that the last two are epistemic and hence impermanent, but the first one is logical and hence permanent. But all of them are opposed to the cognition of the invariable concomitance although not in the same way. Moreover, all of them are infected with the fallacy of deviation, but not in the same way. The probans of the first one occurs in the locus of the absence of the probandum, and it is *vyabhicārī* (deviating) in this sense. But the probantia of the other two types are not *vyabhicārī* (deviating) in this sense. The probans of the second type is *vyabhicārī* (deviating) in the sense that it does not reside in the locus of the probandum i.e., *sapakṣa*. The probans of the third type is *vyabhicārī* (deviating) in the sense that there is neither *sapakṣa* nor *vipakṣa*. Since there is neither *sapakṣa* nor *vipakṣa*, the cognition of the co-presence of the probans with the probandum or the cognition of the co-absence of the probans with the probandum is not possible. Hence the cognition of any type of invariable concomitance is not possible so long as this defect remains. In spite of these senses of the word '*vyabhicāra*' ('deviation'), all the three types of deviation have one thing in common. Each of them refers to the object of a true cognition which is opposed either to the cognition of the agreement in presence type of invariable concomitance or to the cognition of the agreement in absence type of invariable concomitance.

3. *viruddha* (opposed): If the probans is pervaded by the absence of the probandum, the probans is called '*viruddha-hetu*' ('opposed probans'). Hence the invariable concomitance would be between the probans and the absence of the probandum, not between the probans and the probandum. In other words, wherever the probans is present, the probandum is absent. For example, sound is eternal, because of the property of being an effect. Since an effect is non-eternal, the probans, far from establishing the probandum, establishes the absence of the probandum.

In the case of *viruddha* fallacy, the probans lacks the property of being present in *sapakṣa* and the property of being absent from *vipakṣa*. In other words, it is absent from the loci of the probandum, but is present where the probandum is absent. Hence the agreement in presence (*anvya-sahacāra*) and agreement in absence (*vyatireka-sahacāra*) cannot be observed. From this it follows that neither the invariable concomitance in presence nor the invariable concomitance in absence can be cognised. Moreover, since both the types of invariable concomitance are false, the defect would be the falsity of the invariable concomitances. Hence the cognition of this defect will be opposed to the cognition of both the types of invariable concomitance and thereby both the types of operation. It is also opposed to the inferential cognition. Since it is a permanent defect, it may be called 'logical fallacy.'

4. *satpratipakṣa* (existence of counter-thesis): The word '*satpratipakṣa*' has two meanings. It may mean either the thesis of the opponent or a type of defect (*doṣa*) which will prevent an inferential cognition. In the context of a debate it simply means the thesis of one's opponent, which tries to establish the opposite conclusion. Hence there would be two operations so that two opposite conclusions can be established. The operation of the proponent has the form:

- a) *p* has *h* which is pervaded by *s*, but the operation of the opponent takes the form:
 b) *p* has counter-*h* (different from *h*) which is pervaded by the absence of *s*.

Since the opponent uses a counter-probans, the word '*satpratipakṣa*,' in a debate, refers to the probans of the operation of the opponent. The opponent tries to establish the conclusion *p* has absence of *s*, which is the contradictory of the conclusion of the proponent. The operations of both the proponent and the opponent may be false, but the conclusions of both of them cannot be false as they are contradictories. Let us consider the following operations of the proponent and the opponent respectively.

- c) The lake has smoke which is pervaded by fire.
 d) The lake has light (counter-probans) which is pervaded by the absence of fire.

The proponent will deduce the conclusion 'The lake has fire,' and the opponent the conclusion 'The lake has absence of fire.' Since the opponent uses a counter-probans to establish the absence of the probandum in the same locus, there is a *satpratipakṣa*. If the opponent uses the probans of the proponent, then it will not be an example of *satpratipakṣa*. For example,

- e) The lake has smoke which is pervaded by the absence of fire. Hence from the very definition of *satpratipakṣa* it follows that the probans of the opponent is different from that of the proponent.

Now let us consider what happens to those who remain non-committal to the thesis of the proponent or the opponent. In our above examples, both c) and d) will generate cognitions in those who are not committed to either of the conclusions. But the operation c) will prevent the occurrence of the inferential cognition which is due to d), and the operation d) will prevent the occurrence of the inferential

cognition which is due to c). Hence we cannot say that these two operations are mutually opposed to each other in the sense that the cognition of c) will prevent the cognition of d) and *vice versa*. But the very existence of *satpratipakṣa* is opposed to the inferential cognitions among the non-committals.

There is another use of the word '*satpratipakṣa*' which identifies a *satpratipakṣa* with a fallacy (*satpratipakṣa doṣa*).

It is to be remembered that a fallacy or a defect (*doṣa*) is the object of a true cognition which is opposed to the occurrence of the operation or the inferential cognition. In our above examples, neither the object of the operation c) nor the object of the operation d) is a defect (*doṣa*), because both the cognitions are false. An example of this type of defect would be the object of a true cognition such as

- f) The lake has water which is pervaded by the absence of fire. Therefore, the defect will be the object of any true operation which has the same locus (*pakṣa*) as c) and the counter-probans of this operation is pervaded by the absence of fire.

The operation f) will prevent the occurrence of the inferential cognition 'The lake has fire' which is due to the operation c). Since the object of the operation f) is the defect, the probans of c) will be infected with this defect. Since there is a counter-probans which is pervaded by the absence of fire, the probans of c) lacks the property *asatpratipakṣattva* (the property of not having a counter-probans which is pervaded by the absence of the probandum). But the probans of the opponent used in d) is not infected with this defect as it is also pervaded by the absence of fire. It commits the fallacy of *svarūpāsiddha* (unestablished in the locus). Hence the probans of c) only commits the fallacy of *satpratipakṣa*. But the defect called '*satpratipakṣa doṣa*' is not the object of either c) or d). If the opponent would have used the operation f) instead of the operation d), then f) would have been a *satpratipakṣa*, the object of f) would have been the defect, and the probans of c) would have been infected with this defect. Similarly, the inferential cognition from c) would be prevented by any other operation, the object of which is a *satpratipakṣa* defect.

It may also be noted that whenever there is a fallacy of *satpratipakṣa*, there are other fallacies as well. In the example above, c) commits the fallacy of *svarūpāsiddha* (unestablished in the locus) and *bādha* (absence of the probandum characterising the locus). If a person does not know that the locus is characterised by the absence of the probans and also does not know that the locus is characterised by the absence of the probandum, then also his inferential cognition can be prevented by a true operation the object of which is a defect of *satpratipakṣa*. The fallacy of *satpratipakṣa* is a logical one. Since it does not depend upon the epistemic attitude of the agent, the Nyāya calls it a 'permanent defect' ('*nitya doṣa*').

5. *bādha* (absence of the probandum characterising the locus): The fallacy of *bādha* occurs when a probans is used to establish a probandum in a locus which is characterised by the absence of the probandum. For example, Fire is cold, because of substancehood, as in water.

In the case of a *bādha* fallacy the inferential cognition is directly prevented by the cognition of the absence of the probandum in the locus. In the above example, the operation is the cognition expressed by the sentence 'Fire has substancehood which is pervaded by coldness.' This operation will yield the cognition 'Fire is cold.' But the cognition 'Fire has absence of coldness' will prevent the occurrence of the inferential cognition. Since the preventer cognition is true, its object is the defect (*doṣa*). Hence the cognition of *bādha* fallacy is directly opposed to the inferential cognition.

In the example above, the preventer cognition may be due to direct perception of fire through our sense organs. Since the Nyāya accepts four sources of valid cognition, a preventer cognition may be derived from perception, comparison, verbal testimony, or some other inference.

It may also be noted that whenever there is a *bādha* fallacy, some other fallacy such as *vyabhicāra* (deviation) or *svarūpāsiddha* (unestablished probans in the locus) is also involved. But these fallacies are not directly opposed to the inferential cognition. Hence if someone does not have the cognition of other fallacies in connection with this type of inference, then the inferential cognition will be prevented by the cognition of the *bādha* fallacy i.e., the knowledge that the locus lacks the probandum. Since this type of fallacy does not depend on the epistemic attitude, it is also a permanent defect. From the Nyāya discussion of different types of fallacies it follows that the Nyāya philosophers are dealing not only with the falsity of the premise(s) or the conclusion of a fallacious inference but also with the different ways the operation or the inferential cognition of an inference can be prevented.

²⁰ In this inference the locus (*pakṣa*) is the present cognition of a particular person, the probans (*hetu*) is the property of being a cognition, and the probandum (*sādhya*) is the property of being independent of another cognition of the same person for the use of the same cognition by the same person.

²¹ *Vyabhicāra* is another type of fallacy. In this case there is a deviation from the rule of invariable concomitance. In other words, if we come across a case where the probans is present but not the probandum, then the inference suffers from the fallacy of *vyabhicāra* and the probans is *vyabhicārī*.

²² In order to avoid the fallacy of *vyabhicāra* it may be said that the probans is not the property of being a cognition, but the property of being the present cognition of a particular person. The locus of inference (*pakṣa*) and the probandum (*sādhya*) would remain the same.

But this move would not be acceptable to the Nyāya philosophers. On this interpretation there will not be any difference between the probans and the limiter of the property of being the locus of the inference (*pakṣatāvachedaka*), because the locus of the inference is the present cognition of a particular person. As a result, the application (*upanaya-vākya*) will contain the expression 'the present cognition of a particular person has the property of being the present cognition of a particular person.' The limiter of the property of being the locus will be the property of being the present cognition of a particular person. Hence it has the form 'x which is present under the mode *F* has *F*.'

According to the Nyāya theory of understanding the meaning of a sentence, this form of tautology does not generate a cognition in a hearer or a speaker. Hence the application which is a premise of this inference will not generate any cognition. As a result, the operation (*parāmarśa*) will not take place. So the inferential cognition which is causally dependent on the operation will not take place.

²³ This remark of the author needs some explanation. Here the author is talking about the causal conditions of the terms of an inferential cognition. The operation (*parāmarśa*) is a causal condition of the inferential cognition and it has the form '*p* has *h* which is pervaded by *s*,' where *p* is the locus or the subject of the inference, *h* is the probans and *s* is the probandum. *h* is the pervaded (*vyāpya*), *s* is the pervader (*vyāpaka*), and there is a pervader-pervaded relation between them. In other words, *h* is pervaded by *s*, or *s* pervades *h*. Hence *h* has the relational property of being the pervaded (*vyāpyatva*), and *s* has the relational property of being the pervader (*vyāpakatva*). *s* is the qualificand and the property of being the pervader (*vyāpakatva*) is its qualifier. The qualificand-qualifier relation is an epistemic relation between the objects of a cognition and is analogous to the subject-predicate relation between the terms of a sentence at linguistic level.

Since *s* is the qualificand, it has the relational property of being the qualificand (*viśeṣyatā*), and since the property of being the pervader (*vyāpakatva*) is its qualifier, it has the property of being the qualifier (*prakāratā*). Again, these two properties, viz., the property of being the qualificand and the property of being the qualifier, determine each other. In other words, they are correlative properties. Here the author is talking about the property of being the qualificand residing in *s* and its role. This property is a causal condition of the property of being the object (i.e., the relation of a cognition to *s*) which is known as the property of being the probandum (*sādhyatā*) in an inferential cognition. Hence the author is explaining the causal conditions of the relation of an inferential cognition to its objects.

²⁴ Here the author uses the expression 'the property of being the property-possessor' (*dharmitva*) which refers to a relational property corresponding to the relation of a cognition to its object. Hence it is an epistemic relational property. This property is also known as 'the property of being the object residing in the property-possessor' (*dharmī-niṣṭha-viśayatā*) or 'the property of being the qualificand residing in the property-possessor' (*dharmī-niṣṭha-viśeṣyatā*).

²⁵ Here the author has pointed out the causal condition of the relation of the inferential cognition to its subject. Hence he is talking about the locus (*pakṣa*) which has occurred in an operation. In an operation of the form '*p* has *h* which is pervaded by *s*,' *p* is the locus of inference (*pakṣa*). Since *h* which is pervaded by *s* resides in *p*, it is a property of *p*. Therefore, *p* becomes the property-possessor (*dharmī*).

In an operation the cognition is related to *p* which is the locus of the inference. Hence *p* is characterised by an epistemic relational property (*viśayatā*). This relational property of *p* is a causal condition of the property of being the subject (*uddeśyatā*) residing in the subject of the inferential cognition (*anumiti*).

In this context it is to be noted that the author uses the term 'subject' (*uddeśya*) instead of 'qualificand' (*viśeṣya*) to refer to the subject of the inferential cognition. The pair of terms 'subject' (*uddeśya*) and 'predicate' (*vidheya*) cannot be equated with the pair 'qualificand' (*viśeṣya*) and 'qualifier' (*viśeṣaṇa*) in the context of an inferential cognition, although both the pairs are used to talk about the objects of cognition and refer to correlatives. The terms 'qualificand' and 'qualifier' are used to talk about a cognition which has the form '*aRb*,' but the terms 'subject' and 'predicate' are being used to talk about the objects of an inferential cognition. The 'predicate' refers to what is being inferred or what is to be inferred, and the 'subject' refers to where it is being inferred. In our above form *s* is what is being inferred and *p* is the locus of the inference of *s*.

The inferential cognition may take either of the two forms:

- a) *p* has *s*
- b) *s* is present in *p* (or *s* is in *p*).

In a) the qualificand is *p* and the qualifier is *s*. In b) the qualificand is *s* and the qualifier is *p*. But the subject and predicate of a) would be the same as the subject and the predicate of b). Since *s* is being inferred in both cases, it remains the predicate in both the cases. Similarly, since *p* is the locus where *s* is being inferred, it remains the subject both in a) and b). Hence in an inferential cognition of the form a), *p* will have the property of being the subject (*uddeśyatā*) and the property of being the qualificand (*viśeṣyatā*), and *s* will have the property of being the predicate (*vidheyatā*) and, the property of being the qualifier (*viśeṣaṇatā*). But in b), *s* will have the property of being the predicate (*vidheyatā*) and the property of being the qualificand (*viśeṣyatā*), and *p* will have the property of being the subject (*uddeśyatā*) and the property of being the qualifier (*viśeṣaṇatā*). Therefore, in order to emphasise the inferential aspect of the cognition, the author uses the term 'subject' which is the correlative of 'predicate.'

²⁶ Here the author is talking about the causal conditions of cognising the meaning

of a sentence or a complex expression. It is to be noted that according to the Nyāya theory of a sentence, any complex or non-atomic well-formed expression is a sentence. Hence expressions, such as 'cooks,' 'cooks rice,' 'a king,' 'the king of France,' etc., are treated as sentences. Moreover, the meaning of a complex expression cannot be identified with the meanings of its parts. Similarly, understanding the meaning of a complex expression cannot be identified with understanding the meanings of its parts. The meaning of a complex expression such as 'a red flower' lies in the relation of a red colour to a flower and understanding the meaning of this expression as distinct from knowing the meanings of its parts lies in cognising this relation. Hence the relation between the referents of the two parts is important for both meaning and understanding the meaning.

In the case of a false sentence, the relation does not hold between the referents of its parts, but nonetheless the relation which is cognised at the level of understanding the meaning is real elsewhere or elsewhen. In understanding the meaning of a true sentence the relation which holds good is being cognised. Hence in understanding the meaning of 'the king of Spain' the rulership relation which holds good is being cognised, but in understanding the meaning of 'the King of France' the rulership relation which is cognised does not hold between the king and France, although it is real elsewhere, and has been cognised elsewhere or elsewhen. Therefore, the Nyāya explanation of understanding a false sentence does not involve any reference to an unreal entity.

In this context the author is talking about the way the objects become the objects of cognition when we understand the meaning of a sentence. Here the objects of understanding would be at least two entities and a relation. Each of the objects including the relation will have a separate property of being the object (*viśayatā*). So the property of being the object residing in the qualificand is called 'the property of being the qualificand' (*viśeṣyatā*), the property of being the object residing in the qualifier is called 'the property of being the qualifier' (*prakāratā*), and the property of being the object residing in the relation of the qualifier to the qualificand is called 'the property of being the relation' (*samsargatā*). Here the author has pointed out the causal conditions of these properties of being the object.

In order to explain this point let us consider the meaning of an atomic expression such as 'pot' and a sentence in which it occurs such as 'A pot has a red colour.' An atomic expression such as 'pot,' according to the Nyāya, refers to an entity which is included in its ontology. Hence the word 'pot' refers to a pot, and the relation between them is called 'referent – referring' (*vācya-vācaka*). Since the Nyāya emphasises the direction of the relation, the relation of a word to its referent is called 'the property of being the referent' (*vācyaiva*), and the converse of this relation is called 'the property of being the referring' (*vācakatva*). Since *vācyaiva* is a relational property of a pot in the cognition that a pot is the referent of 'pot,' a pot becomes the qualificand and this relational property becomes its qualifier. Therefore, when the word 'pot' is uttered in the sentence 'A pot has a red colour,' the pot which is cognised has the property of being the qualificand and the property of being the referent (*vācyaiva*) residing in this pot has the property of being the qualifier. Since the property of being the qualificand and the property of being the qualifier are correlatives, they are related to each other by the determiner-determined relation (*nirūpya-nirūpaka-sambandha*). The property of being the referent is a causal condition of the property of being the object (*viśayatā*) which resides in the object of a cognition when we understand the meaning of a sentence. Thus, a pot becomes the object when we understand the sentence 'A pot has a red colour.'

Similarly, a red colour also becomes the object of a cognition when we understand the meaning of this sentence. The property of being the object residing in the red colour is due to the property of being the referent residing in it, and the property of being the referent is due to the relation of the word 'red' to a red colour. This is

how both a pot and a red colour become objects when we understand the sentence 'A pot has a red colour.' Since the pot is the qualificand and the red colour is a qualifier in this cognition, the pot has the property of being the qualificand and the red colour has the property of being the qualifier. Now the causal condition for the difference between these properties is to be stated. The Nyāya claims that this is due to the successor-predecessor relation between the words which have occurred in the sentence 'A pot has a red colour.'

It is also to be noted that this cognition contains not only a pot and a red colour as its objects, but also a relation of a red colour to a pot. Hence this relation also has the property of being the object (*samsargatā*). According to the Nyāya, the cognition of the syntactic expectancy (*ākāṅkṣā*) between the words 'a pot' and 'a red colour' is a causal condition of the property of being the object which resides in the relation of a red colour to a pot. The meaning of this sentence as distinct from the meanings of its parts lies in this relation which is due to syntactic expectancy or revealed by syntactic expectancy (*ākāṅkṣā-bhāsyā*).

In this discussion the author has pointed out how the same object can be cognised in different ways such as perception, inference and testimony (or verbal cognition). He has also pointed out how the difference between them is to be explained in terms of their causal conditions.

In this context it may also be noted that the Nyāya philosophers have used the following pairs of terms to characterise the relations of a cognition to its objects:

1. *viśeṣya-viśeṣaṇa* (qualificand-qualifier)
2. *viśeṣya-prakāra* (qualificand-relational qualifier)
3. *pakṣa-sādhya* (locus of inference – probandum)
4. *uddeśya-vidheya* (subject of inferential cognition – predicate)

The qualificand-qualifier (*viśeṣya-viśeṣaṇa*) distinction is applicable to every qualificative or relational cognition (*savikalpaka-jñāna*). A qualificative cognition has the form *aRb*, where *a* is the qualificand, *b* is the qualifier and *R* is the qualification relation which relates *b* to *a*. Hence *a* has the property of being the qualificand (*viśeṣyatā*) and *b* has the property of being the qualifier (*viśeṣanātā*). Let us consider the cognitions expressed by the following sentences:

- a) A fire is on the mountain.
- b) The mountain has a fire.

In a) *a fire* is the qualificand and *the mountain* is the qualifier, while in b) *the mountain* is the qualificand and *a fire* is the qualifier. Since in a) a particular fire is distinguished from other fires in terms of the mountain, the mountain is the qualifier, and since a fire is being distinguished from other fires, it is the qualificand of this cognition. Hence the fire of this cognition has the property of being the qualificand and the mountain has the property of being the qualifier. These relational properties are used to characterise the roles of these objects in this cognition.

In b) a fire is being used to distinguish the mountain from other mountains. Hence it is the qualifier of this cognition. Since this mountain is distinguished from other mountains, it is the qualificand. The property of being the qualificand residing in the qualificand and the property of being the qualifier residing in the qualifier are related to each other by the determiner-determined relation (*nirūpya-nirūpaka-sambandha*) which holds between correlative terms. The category of qualificand-qualifier emphasises the distinguisher-distinguished aspects of the objects of a qualificative cognition.

In both a) and b) the relation of conjunction (or contact) is the qualification relation. According to the Nyāya, the qualification relation is a mode of presentation of the qualifier, not of the qualificand. Hence in a) the conjunction relation is a mode of presentation of the mountain, but in b) it is a mode of presentation of the fire. In general, if a cognition has the form '*aRb*,' the property of being the qualifier residing

in *b* is limited by the relation *R*. When the qualifier of a cognition is presented under the mode of *R*, it is called 'prakāra' ('relational qualifier'), and it has the property of being the relational qualifier (*prakārata*). But this feature of a qualifier cannot be universalised. In other words, we cannot claim that every qualifier is presented under the mode of a relation. According to the Nyāya, when one relation is a qualifier of another relation, the former is simply a qualifier (*viśeṣaṇa*), but not a relational qualifier (*prakāra*). Let us consider the following example: A fire is in a pot and the pot is on the mountain. Suppose the fire is related to the pot by the relation *R*, and the pot is related to the mountain by the relation *S*. Hence the fire is related to the mountain by the relation *R* and *S*. In the cognition of the fire being related to the mountain, the relations *R* and *S* are related by the qualificand-qualifier relation (*viśeṣya-viśeṣaṇa-sambandha*). *R* becomes the qualifier of *S* which is its qualificand. The relation of *R* to *S* is not considered a mode of presentation of *R* which is the qualifier. The Nyāya claims that if the relation becomes the mode of presentation of *R*, then there will be an infinite regress at epistemic level. If *RI* is the relation of *R* to *S* and *RI* becomes the mode of presentation of *R*, then *RI* becomes the qualifier of *R*. Again, the relation of *RI* to *R* becomes the modes of presentation of *RI* and so on.

In order to avoid this type of epistemic regress, the Nyāya claims that a relation which is a qualifier of another relation is simply a qualifier (*viśeṣaṇa*), not a relational qualifier (*prakāra*). But in the case of other qualificative cognitions the same object is both a qualifier and a relational qualifier. Hence in the cognition *aRb*, if *b* is presented under the mode *R*, then *b* will have both the property of being the qualifier (*viśeṣaṇatā*) and the property of being the relational qualifier (*prakārata*).

The other two pairs of terms are used in the context of an inference. In an inference the locus (*pakṣa*) is something where the probandum (*sādhya*) is to be inferred or established. Hence it is usually characterised by a dubious cognition of the probandum. Some Nyāya philosophers have even defined the locus (*pakṣa*) as something where there is doubt about the presence of the probandum. Hence the property of being the locus (*pakṣata*) may be defined in terms of the dubious cognition of the presence of the probandum.

In an inferential cognition (*anumiti*) which is the result of an inference, the locus (*pakṣa*) is no longer characterised by a dubious cognition, and the probandum is predicated of it with certainty. In order to emphasise this difference in cognitive attitude, the Nyaya philosophers have introduced the terms 'uddeśya' ('subject') and 'vidheya' ('predicate'). An inferential cognition has a subject and a predicate. The subject which is the locus of the inference has the property of being the subject (*uddeśyatā*), but not *pakṣatā* which is defined in terms of the dubious cognition of the presence of the probandum in the locus. In order to illustrate this point let us consider the following inference for others:

Thesis (*pratijñā*): The mountain has a fire.

Reason (*hetu*): Because of smoke.

Example (*udāharaṇa*): Wherever there is smoke, there is fire, as in a kitchen, etc.

Application (*upanaya*): The mountain has smoke which is pervaded by fire.

Conclusion (*nigamana*): Therefore, the mountain has a fire.

According to the Nyāya philosophers these sentences will ultimately give rise to an inferential cognition in the hearer. Initially the hearer will understand the meanings of these sentences, and thereafter he will have a mental cognition (*mānasa-jñāna*) of the operation (*parāmarśa*) which will yield the inferential cognition (*anumiti*). Hence

the operation which is a mental cognition is not generated by external sense-organs or by the causal conditions of indirect cognitions (*parokṣa-jñāna*). The inferential cognition may take either the form of the mountain has a fire or the form of a fire is on the mountain.

In the above inference the mountain is the locus (*pakṣa*), and it has the property of being the locus (*pakṣatā*) which is explained in terms of doubt about the presence of the probandum in it. Hence the mountain becomes the locus of this doubt. Moreover, the mountain is the subject as we are trying to establish the presence of fire on it. Since it is fire which is to be established, it is the predicate of the mountain. For this reason the presence of fire on the mountain is not known to us, although the mountain is already known to us. Hence the subject is already known to us, but not the predicate. Since the mountain is the subject, it has the property of being the subject (*uddeśyatā*). Since the mountain is presented under the mode of mountainhood, it is the limitor of the property of being the subject (*uddeśyatāvacchedaka*). Similarly, mountainhood is also the limitor of the property of being the locus of inference (*pakṣatāvacchedaka*). So the Nyāya has drawn the distinction between the subject (*uddeśya*), the locus of the inference (*pakṣa*), the property of being the subject (*uddeśyatā*), and the property of being the locus of the inference (*pakṣatā*).

In the cognition generated by the thesis (*pratijñā*) of the above inference the mountain is the subject and it has the property of being the subject. It is also something where there is doubt about the presence of the probandum. Hence it is the locus of the inference (*pakṣa*), and has the property of being the locus (*pakṣatā*). Since there is no such doubt in the inferential cognition, the mountain does not have *pakṣatā* in the inferential cognition, although it remains the locus (*pakṣa*) as there was doubt about the presence of the probandum. Since it remains the subject (*uddeśya*), it has the property of being the subject (*uddeśyatā*). Thus the Nyāya philosophers have shown the distinction between the cognition generated by the thesis (*pratijñā*) and the inferential cognition (*anumiti*) which is the result of an inference.

In our above example, if the inferential cognition takes the form 'The mountain has a fire,' then the mountain is the qualificand (*viśeṣya*) of this cognition and hence has the property of being the qualificand (*viśeṣyatā*), and the fire is the qualifier (*viśeṣaṇa*) and hence has the property of being the qualifier (*viśeṣanātā*). Since the relation of the fire to the mountain is the mode of presentation of the fire, it is also the relational qualifier (*prakāra*) and hence has the property of being the relational qualifier (*prakāratā*). The fire is also the predicate (*vidheya*) or the probandum (*sādhyā*) as it is something which is being established or was not known to be present on the mountain. Hence it has the property of being the predicate (*vidheyatā*) or the property of being the probandum (*sādhyatā*).

If the inferential cognition takes the form 'A fire is on the mountain,' then also the subject (*uddeśya*) and the predicate (*vidheya*), or the locus (*pakṣa*) and the probandum (*sādhyā*) of the inferential cognition would remain the same. Hence the mountain is the subject (*uddeśya*) or the locus (*pakṣa*), and the fire is the predicate (*vidheya*), or the probandum (*sādhyā*) of this cognition. But the mountain ceases to be the qualificand of this cognition. Since the fire becomes the qualificand (*viśeṣya*), it has the property of being the qualificand (*viśeṣyatā*). Similarly, since the mountain becomes the qualifier (*viśeṣaṇa*), it has the property of being the qualifier (*viśeṣanātā*). The relation of the mountain to the fire becomes the mode of presentation of the mountain. Hence the mountain becomes the relational qualifier (*prakāra*) and has the property of being the relational qualifier (*prakāratā*). But the relation between the mountain and the fire has only the property of being the relation (*samsargatā*) which relates the cognition to the relation.

The above analysis of the Nyāya shows how a cognition is related to its objects. It also reveals the different ways the same cognition is related to the same object.

Hence this discussion might throw some light on the phenomenological discussion of cognition.

²⁷ In this paragraph the author has pointed out the causal conditions of the property of being the object (*viśeṣyatā*) of perceptual, inferential and verbal cognitions. Since analogy (*upamāna*) is also a source of valid cognition according to the Nyāya philosophers, it requires a similar explanation. In an analogical cognition (*upamiti*) we primarily cognise the property of being the referent of an expression (*vācyaṭva*). Hence it takes the following form:

A) *y* is the referent of 'x,' where 'x' is an expression and *y* is its referent.

In this cognition *y* is the qualificand (*viśeṣya*) and hence it has the property of being the qualificand. The property of being the referent of 'x' (*vācyaṭva*) is the relational qualifier (*prakāra*). Hence it has the property of being the relational qualifier (*prakāratā*).

An analogical cognition presupposes the cognition of the following sentence:

B) That which is similar to *z* is the referent of 'x,' where *z* is the referent of the term 'z' which is different from 'x,' and the cogniser already knows the referent of 'z,' but not the referent of 'x.'

Moreover, an analogical cognition presupposes a perceptual cognition which is described by the following sentence:

C) This is similar to *z*.

In the cognition generated by B), that which is similar to *z* is the qualificand (*viśeṣya*) and the property of being the referent of 'x' is the relational qualifier (*prakāra*). Hence the former has the property of being the qualificand and the latter the property of being the relational qualifier (*prakāratā*). In the perceptual cognition C), the object indicated by the word 'this' is the qualificand, and the property of being the qualificand is limited by *y*-ness. Similar-to-*z* is the relational qualifier which has, therefore, the property of being the relational qualifier.

Now we have to point out the causal conditions of the property of being the qualificand (*viśeṣyatā*) and the property of being the relational qualifier (*prakāratā*) of the analogical cognition A). The causal condition of the property of being the qualificand residing in *y* is the property of being the qualificand residing in the perceptual cognition C). The property of being the qualificand of the perceptual cognition is limited by *y*-ness and determined by the property of being the relational qualifier residing in similar-to-*z*. The causal condition of the property of being the relational qualifier residing in the property of being the referent of 'x' is the property of being the relational qualifier of the cognition generated by B). Hence the verbal cognition B) and the perceptual cognition C) are indispensable for the properties of being the qualificand and the qualifier of the analogical cognition A). Let us illustrate with an example of the Nyāya philosophers:

A') *Gavaya* is the referent of the word 'Gavaya'.

B') That which is similar to a cow is the referent of the word 'Gavaya'.

C') This is similar to a cow.

In this example, A') is the analogical cognition, and it presupposes the understanding of the meaning of the sentence B') and the perceptual cognition expressed by C'). The property of being the qualificand in C') and the property of being the qualificand in A') are limited by the same limiter, but not determined by the same determiner. In this example, both the properties of being the qualificand are limited by *gavayantva* (*gavayaṭva*). But the property of being the qualificand of C') is determined by the property of being the relational qualifier residing in similar-to-a-cow, and the property

of being the qualificand residing in A') is determined by the property of being the relational qualifier residing in the property of being the referent of 'gavaya.'

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