CHAPTER IV
INFERENCE (ANUMĀNA) - ITS STRUCTURAL AND FUNCTIONAL ANALYSIS

I
The two kinds of inference - inference for oneself (svārthānumāna) and inference for others (parārthānumāna).

The division of inference into 'inference for oneself (svārthānumāna) and 'inference for others' (parārthānumāna) is quite old. It is perhaps the innovation of Dīgnāga. Prāsaṇṭaṇāda also recognises this division. All the later Naiyāyikas accepted this division.

The 'inference for oneself' is the inference proper. It is the thought-process of inferring something which is not presented to the senses. The 'inference for the other' is the verbal expression of one's own inference for the conviction of others. Nyāya Bindu says, "The inference for others consists of verbal statements. But 'inference for oneself' is an internal process of thought. Prāsaṇṭaṇāda defines 'inference for the others' as a statement consisting of five propositions, which convey to others what has been ascertained definitely in one's own self." It is the demonstration of one's own inference to others. It consists in stating the essential factors of one's own inference.

The Buddhists and the Vaiśeṣikas regard the cognition of the mark having three aspects (trairūpya) as the immediate condition of inference. The cognition of the three aspects of valid reason means the cognition of 'vyāpti' - the invariable concomitance between 'hetu' and 'sādhyā' and the cognition of 'pakṣa - dharmatā' - the connection of the middle term with the minor. The Mīmāṃsakas and the vedāntīs follow the Buddhists and regard the cognition of vyāpti and the cognition of Pakṣadharma as the essential and the sufficient conditions of inference.

The Naiyāyikas regard the 'third cognition of the mark' (trītyaliṅga-parāmarṣa) as the immediate condition of inference. The cognition of the necessary relation between the mark (liṅga) and that of which it is the ma...
(liṅga) is the first cognition of the mark. The primary source of this cognition is perception. Therefore, the Naiyāyikas often express the first cognition of the mark as the first perceptual cognition of the mark. The cognition of the mark as connected with the 'pakṣa' (minor term) is the second cognition of the mark. The cognition that the mark known to be connected with the 'pakṣa' is necessarily connected with the property to be inferred is the third perception of the mark.

Though all the Naiyāyikas recognise 'paramāra' as the immediate condition of inference, all of them do not regard it as the instrument of inference. This is due to the different concepts of 'instrument'. The 'instrument' of an effect is defined as the most efficient cause. Thus, that which is the most efficient cause of knowledge is regarded as its instrument (pramāṇa).

But what is meant by the 'most efficient cause or causal condition'? Uddyotakara answers that the causal condition which is immediately and necessarily followed by the effect is known as the most efficient cause of the effect. It is the proximate condition of an effect.

Gangesa and his followers define 'instrument' as the peculiar cause which is in operation. The peculiar cause is the cause which determines the specific nature of the effect. The operation (vyāpāra) is defined as the condition which brings out the effect of the thing of which the 'vyāpāra' itself is the function. The cause which along with its operation is regarded as 'karaṇa' can exist without the operation but the operation has no independent existence. In the case of perception, the sense-organ is the peculiar cause, the contact of the sense-organ with the object is its 'vyāpāra' and the perception is the effect. The sense-organ is the peculiar condition of the perception. It may exist without coming into operation. But it cannot produce its effect viz: perception, without coming into operation; i.e. without
coming into contact with the object. The sense-object-contact which produces perception depends on the prior existence of the sense-organ.

Thus, an instrument accomplishes its effect through its 'operation.'

Raghuṇāṭha and some other Navya-Naiyāyikas follow the old Nyāya in this matter and regard Karana as the proximate condition of the effect.

According to this view, what is regarded as the operation of the instrument by Gaṅgeśa and Viśvanāṭha, in fact is the instrument.

What, then, is the instrument of inference? According to Uddyatakara, Raghunāṭha and Mathurānāṭha, 'parāṃśra' is the instrument of inference. But according to Gaṅgeśa and Viśvanāṭha Vyāpti is the instrument of inference. They regard parāṃśra as the operation of 'vyāpti'. However, it is accepted by all the Naiyāyikas that parāṃśra is the immediate condition of inference.

Those who regard 'vyāpti' as the instrument of inference regard 'paramāra' as the epistemic condition of inference. But those who regard 'paramāra' as the instrument of inference regard it as a logical as well as epistemic condition of inference.

II

STRUCTURE OF INFERENCE

All Indian Logicians, Dignāga, Uddyatakara, Kumārila etc. hold, that the object of inference is some property-possessor (sadhya-dharmā) as qualified by a new property (sadhya-dharma) and the reason (sadhana-dharma) from which it is inferred is also regarded as the property of the same property-possessor. The general law of inference is stated in the following way: It is from the cognition of a property qualifying a particular substratum that we infer that very substratum as qualified by a new property. Describing the structure of inference Vācaspatī Mīśra says, "A substratum as qualified by a property is inferred from the cognition that the same substratum is qualified by a property which cannot exist without the property inferred." He also quotes Kumārila to support it. Kumārila says, "The same substratum..."
is regarded as the logical condition (gamaka) as well as the object of inference (gamya). With regards to its part, feature or property which is known, it is regarded as the immediate logical condition of inference (gamaka). With regard to its part which is not already known, it is regarded as the object of inference (gamya).

It is now clear that an inference in earlier logical literature of India involves three terms. They are:

1) 'Sādhya-dharma' - that which is inferred as the substratum of a property,
2) 'Sādhya-dharma' - the property which is inferred as qualifying the substratum.

The object of inference, is neither merely the sādhya-dharmā nor the Sādhya-dharma. It is the 'sādhya-dharmī' as qualified by a 'sādhya-dharmā.'

An inferential cognition is also judgmental in nature. It is the cognition of a 'substratum as qualified by a property. In Indian Logic, the object of a judgmental cognition is always conceived as a whole, a synthetic unity of a 'substratum and property. When the judgmental cognition is given the form of a sentence the 'substratum' is regarded as the subject & the property as the predicate of a judgment. In the case of inference that is given a linguistic form the subject in conclusion is known as the 'Sādhya-dharmī' - that which is to be inferred as a 'substratum' of property and the predicate of the conclusion is known as the 'Sādhya-dharmā' - that which is to be inferred as the property. The term 'Sādhya' has been used ambiguously in the Nyāya literature. Sometime, it is used for the subject, some time for the predicate and sometime for the synthetic whole of the subject and the predicate. In the literature of Navya - Nyāya and the syncretic school, the term 'Sādhya' is restricted for the predicate. The word 'pakṣa' is more commonly used for the subject, the 'Sādhya-dharmī'. The third term is the logical reason (hetu). But the logical reason which leads to the inference does not exist apart from the subject. It is always a part, a feature, a
property (ekadesa - dharma) of the subject. It is, therefore, called as 'Sadhana - dharma'.

Thus, that a substratum qualified by a property is inferred from the cognition that the same substratum is qualified by another property is accepted by all the Indian Logicians. However, there is a difference between the Buddhists and the Naiyayikas regarding the question whether the object of inference is externally real or not. For the Buddhists, there is no relation of whole and part, substratum and property in the external world. They think that such relations are only connected with our process of thinking and that so far as the problem of Logic is concerned, it is entirely useless to ask whether these relations are real or unreal. But according to the traditional interpretation of Nyaya Logic the object of inference always refer to a real substratum qualified by a real property.

III

VYAPTI AND PAKṢADHARMATA

THE ESSENTIAL LOGICAL CONDITIONS OF INFERENCE

The three terms of inference are connected with one another. One term cannot be conceived without its relation with the other two terms. That which is referred to by the subject is the substratum of that which are referred to both by the predicate, the 'sādhyā-dharma' and the reason (sādhana-dharma) on the basis of which the predicate is predicated of the subject. It is by virtue of being the property of a substratum - the inference that subject (Pakṣa -dharma) that the reason leads to the same substratum is qualified by a new property. But unless the reason, which qualifies the subject is so related with the predicate - the 'Sādhyā-dharma' that the former cannot occur where the latter does not occur (avnabhūta), the cognition of a substratum qualified by the former cannot lead to the inference of the same
'substratum' as qualified by the latter. Thus, inference depends upon two
connections - the connection of the reason with the subject and the
connection of the reason with the predicate. The first is conceived as
the relation of subject and the predicate which on ontological side will
denote a relation between a property and substratum (nākṣaṇa-dharmatā). The
second is the relation of invariable concomitance between the reason and
the predicate (vyāpti) or the relation of the non-occurrence of the former
without the latter (vinābhava). It is on the basis of the knowledge of
these connections that the connection between the substratum (sādhyadharmī)
and the property which invariably accompanies the reason is inferred. All Indian-Logicians,
thus, accept 'vyāpti' and 'pakṣa-dharmata' as the essential conditions of
inference. Kesava Misra says, "There are two organs of inference - 'vyāpti'
and Pakṣadharmatā." These are the two essential logical conditions of
inference. Including the conclusion, an inference consists of three factors.
These two logical conditions of inference are stated by the Buddhists in their
doctrine of the three aspects of the reason (trairūpya) and by the Naiyayikas
in their doctrine of paramārśa. While the doctrine of 'trairūpya' states only
the constitutive conditions, of inference, the doctrine of 'paramārśa'
succinctly expresses both the epistemic and the constitutive conditions of
inference.

IV
TRAIRŪPYA AS THE LOGICAL BASIS OF INFERENCE

The Buddhist Logicians define inference as the cognition of a thing
derived from the cognition of a reason having three aspects. It was Dignāga
who formulated the doctrine of 'trairūpya' which was elaborated by
Dharmakīrti and Dharmottare. Dignāga discussed the logical conditions
which determine the validity of the logical reason. He defines a valid
reason as one which is present in the subject and that which is similar to it and is absent from that which is not similar to it." Thus, the three aspects of a valid reason are:

1. The presence of the reason or mark in the subject.
2. Its presence in the similar cases viz: the cases which are similar to the subject as in being the substratum of the property to be inferred.
3. Its absence in the dissimilar cases viz: the cases which are not the substratum of the property to be inferred.

Dharmakirti states these three aspects of valid reason in a refined forms as follows:

1. Just presence of the reason in the subject.
2. Its presence in the similar cases only.
3. Only non-existence (never presence) in the dissimilar cases.

The first canon of valid reason emphasises that the reason must be a property of the substratum which is to be inferred as the subject. The second and the third express 'vyāpti', the logical relation of invariable concomitance between 'hetu' and 'Sādhyā'. Thus, the two essential conditions of inference, paksadharmata and 'vyāpti' are stated by way of stating the three aspects of the reason. In pramāṇa Vartika, Dharmakirti clearly states Paksadharmata and vyāpti as the characteristics of a valid reason. Therefore, he defines valid reason as "that which is a property of the subject and is pervaded by another property which too occurs in the same subject.

V

IMPORTANCE OF PAKSĀDHARMATA AS A CONDITION OF INFERENCE

We shall discuss the nature and form of 'vyāpti' in a separate chapter. Here, we should simply note that 'vyāpti' is a relation between 'hetu' and 'sādhyā' such that the former cannot occur in a substratum in which the latter does
not occur. It means that where there is \( H \) (Hetu) there is \( S \) (Sadhya) and where there is \(-S\), there is \(-H\). Vyapti, thus, is the implication between \( h \) and \( s \). The relation of 'follows from' is the direct outcome of it. \( h \) 'implies \( s \) and \( s \) 'follows from' \( h \). No inference is possible without such a kind of relation between \( h \) and \( s \). It should also be noted that Vyapti is not a relation between \( s \) and \( h \) as separated from their substratum. It is the co-occurrence of \( h \) and \( s \) in one 'substratum.' Thus, when we say that Vyapti is the implication; between \( h \) and \( s \) the symbols \( h \) and \( s \) do not represent two terms hetu - and sadhya; they, rather, represent two propositions - ' \( x \) is possessed of \( H \)' and ' \( x \) is possessed of \( S \).' \( x \) represents the 'substratum' of the thing taken to be the hetu and the \( x \) 'substratum' of the thing taken to be sadhya. Thus, \( h \) implies \( s \) means that ' \( x \) is possessed of \( H \)' implies ' \( x \) is possessed of \( S \).'

Though Vyapti is a necessary condition of inference, it is not the sufficient condition of inference.

What is inferred from a reason is not the 'sadhya-dharma.' It is some specific place or time qualified by the 'sadhya-dharma.' What we infer from smoke is not fire but a particular place e.g. hill qualified by fire. Unless it is known that the smoke is the property of the hill, how can the hill be inferred as qualified by fire? The conclusion of inference must be new, otherwise, inference would be useless. But the cognition of mere 'Vyapti' cannot yield new knowledge. The terms which are known to be related by 'Vyapti' are universals. Where there is smoke, there is fire - this is the form of 'Vyapti' in general, the universal fire. Similarly, the term smoke also means the smoke in general, the universal smoke. What is 'inferred from the relation between the universal smoke and universal fire cannot be 'universal fire', as it is

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\begin{align*}
H &= \text{Hetu as term; } h = x \text{ is possessed of } H \\
S &= \text{sadhya as term; } s = x \text{ is possessed of } S \\
-S &= \text{absence of Sadhya; } -H &= \text{absence of Hetu}
\end{align*}
\]
already known. To hold so would mean nothing but the repetition of the
Vyāpti as such. Therefore, it is some particularised fire which is inferred.
The universal fire cannot be particularised without referring it to some
particular 'substratum.' The form of the conclusion of inference, the cognition
of particularised fire cannot be stated as 'this is fire'. 'This is fire,
is the form of perceptual judgment which according to the Naiyāyikas is the
perceptual cognition of a synthetic whole of a 'substratum and a universal.

The Buddhists hold that a perceptual judgment is only a thought-construct.
It simply appears to be perceptual. They hold that a perceptual judgment is the
interpretation on the data of sense by thought as so and so. In a perceptual
judgment, thought simply interprets what is directly grasped by sense-perception.
But in inference thought moves forward and cognises something as so and so not
on the basis of sense-data directly but on the basis of its mark which for
them always means a mark having three aspects. Now, that which is inferred as
so and so must be a whole because it is in relation to a whole that a thing can
be regarded as its mark. Nothing can be conceived as a mark of a simple entity,
expressed by mere 'this'. Thus, when we say that 'this is smoke', the smoke
is not a feature of the thing expressed by 'this'. It is simply the interpre-
tation of 'this' as smoke. Therefore, the judgment 'this is smoke' cannot
lead to inference that 'this is fire'. The universal smoke which is pervaded
(vyāptā) by universal fire can be particularised only as a property of a whole.
Thus, the minor term 'pekṣa' is conceived as a whole e.g. this hill etc. It
is true that for the Buddhists, a whole is not a reality. But the distinction
of whole and part is not denied by them from the logical point of view. Thus,
it is accepted by all the Indian Logicians that it is from the cognition of the
reason as a property of a particular whole that the same whole is inferred as
qualified by the 'sadhyā). It is from the cognition of a hill qualified by smoke
that the same hill is inferred as qualified by fire.
A property which belongs to one substratum cannot be the mark of a property belonging to another substratum. There cannot be any logical relation between a property belonging to one substratum and the property belonging to another substratum. Therefore, it is from the cognition of a particular place qualified by 'sādhana-dharma' that the same place is inferred as qualified by the 'sādhyā-dharma'. To infer is to cognize a universal particularized with reference to a particular place (or time) on the basis of the cognition of the 'sādhana-dharma' as particularized with reference to that very particular place (or time).

'Vyānti means the occurrence of two properties in a common substratum.' It is formulated as: where there is 'Sādhana-dharma', there is 'Sādhyā-dharma'.

But in 'vyānti', the common substratum is not specified. In 'vyānti', the reference of 'sādhana-dharma' and 'sādhyā-dharma' to a common substratum is stated only in a general way. But inference is the cognition of a specific place qualified by 'sādhyā-dharma'. Unless a specific place is cognized as qualified by 'sādhanā-dharma', it cannot be inferred as qualified by the 'sādhyā-dharma'. Therefore, over and above 'vyānti', 'pakṣadharma' should be stated as the condition of inference.

The modern western logicians distinguish inference from implication. The main characteristic of inference by which it is distinguished from implication is this that in inference the conclusion is asserted. Stebbing writes: "It is obvious that a conclusion that is inferred is asserted. Given the proposition p, we may infer 'therefore, q.' 'Therefore' marks the difference between implication and inference."

In implication, neither p nor q is asserted. It is only by asserting p that q can be asserted. Thus, in order to infer q from p, p must imply q and p must be asserted. If p then q, p: therefore, q 'is the form of inference.

Indian Logicians present a somewhat similar structure of inference, 'Vyānti' is the implication between two propositions. 'Whatever is qualified
by 'śādhanā-dharma' is also qualified by 'śādhya dharma' is the general form of vyāpti. It is the relation of the occurrence of 'śādhanā-dharma' and 'śādhya-dharma' in the common substratum. It is not the relation between 'śādhanā-dharma' and 'śādhya-dharma' as completely abstracted from their substratum. But in 'vyāpti', the substratum in which the 'śādhanā-dharma' and 'śādhya-dharma' occur is not specified. To specify the substratum of 'śādhanā-dharma' is to assert that this particular substratum is qualified by 'śādhanā-dharma'. It is only on asserting that this particular substratum is qualified by 'śādhanā-dharma' that it can be asserted that the same substratum is qualified by 'śādhya-dharma'.

'Wherever there is smoke, there is fire' is not, as a matter of fact, the statement of one simple proposition. It indicates implication between two simple propositions - 'x is smoky' and 'x is fiery'. But in the statement of 'vyāpti', neither of these two propositions is asserted. These propositions can be asserted by specifying the substratum of 'smoke' and 'fire'. When we say that 'there is smoke on the hill', we assert this proposition. On asserting this proposition we assert, that 'there is fire on the hill.' Thus, 'pakṣa-dharmatā' is the basis of asserting conclusion.

VI

LINGA-PARDAHARŚA AS THE THERAPEUTIC CONDITION OF INFERENCE.

We have seen earlier that the Naiyāyikas regard cognition as a product. They, therefore, distinguish between a cognition and its instrument. Uddyotakara Jayanta, Vācaspati and others clearly state that 'pramāṇa' means an instrument of valid knowledge and not valid knowledge as such. They, thus, also make distinction between inferential cognition or inference and its instrument. While the former is called 'anumāṇa', the latter is called 'anumāṇa'. They analyse the term 'anumāṇa' as 'anumāṇyate anena' - that by which something is inferred. The
affix 'mat' used in the constitution of the word 'anumāna' according to them, expresses the meaning of instrument.

According to the Naiyāyikas, psychologically, the inferential process runs as follows: A person who has already acquired the knowledge that smoke is pervaded by fire by perceiving smoke and fire together at such places as the kitchen, perceives the smoke at a particular place e.g. the hill. On perceiving the smoke on the hill, he recollects that smoke is pervaded by fire. The recollection of 'vyānti' between smoke and fire leads to the cognition that the hill possesses smoke which is pervaded by fire. (vyāṁ-Vyāya-dhūmāvāna parvataḥ). This is known as 'paraṁarasā' or 'trtiya-liṅgāparāmersā'. It is defined in the Navya-Nyāya as the knowledge of the occurrence in a 'pakṣa' (field, minor term) of that which is qualified by pervasion.

Some Naiyāyikas regard 'paraṁarasā' as the 'vyāpara' of 'vyānti'. They regard it as the epistemic condition of inference. But some other Naiyāyikas regard 'paraṁarasā' as the instrument of inference. They seem to hold that paraṁaras constitutes logical as well as epistemic condition of inference.

VII
LIṅGĀPARĀMERSĀ AS THE IMMEDIATE EPISTEMIC CONDITION OF INFERENCE

'Liṅgāparāmersā' as we have seen, is the cognition that the mark which is connected with the subject is pervaded by the 'sādhya'. For example, the cognition that the smoke which is connected with the hill is pervaded by fire is the (paraṁarasā) of the smoke as the mark (liṅga) of fire. The connection of the smoke pervaded by fire with the hill is an objective fact. But its cognition is a subjective content. The Navya-Naiyāyikas emphasise the distinction between the occurrence of the pervaded (vyāya) in a particular substratum and its cognition. It is the cognition of the occurrence of the pervaded in a substratum and not the external fact of the occurrence of the pervaded in a
substratum which is the immediate condition of inference.

The Buddhist logicians and the Vāsēśikas, as we have seen, hold that it is the mark cognised as being connected, on the one hand with the subject—a particular substratum, and on the other, with the predicate (sādhyā), which is the instrument of the inferential cognition.

But the Nāyā-Naiyāyikas reject this view. They point out that if the cognised mark (paramāsyāmānaliṅga) which, of course, means the mark as qualified by the two connections—the connections with the subject (pākaśa) and the connection with the 'sādhyā', is regarded as the instrument of inferential cognition, then it cannot be explained that how a past or a future mark produces inferential cognition in the present.

A past or a future mark as such cannot be the instrument condition of the inferential cognition produced in the present. There cannot be any connection between a past or future mark and the cognition produced in the present. Though the inferential cognition cannot have connection with the past or the future mark, it can have connection with the cognition of the mark. Therefore, the cognition of the mark (liṅga-paramārṣa) and not the mark cognised (paramāṣya-māmaliṅga) is the instrumental condition of inference.

Moreover, the theory which regards the cognised mark (paramāṣyamānaliṅga) and not the cognition of the mark (liṅga-paramārṣa) as the proximate logical condition of inference would involve unnecessary complications. A mark is something objective. To define inference as the cognition produced by a cognised mark is consistent with the view that the mark cognised by one person may produce inferential cognition in some other person. But it is absurd to hold that a mark is cognised by Caitra, and the inferential cognition is produced in Maitra. In order to avoid this absurdity, the upholders of this theory point out that the cognised mark gives rise to inference only in the person who has cognised the mark.
The Naiyāyikas point out that to hold so would lead to an unnecessarily complicated definition of inference. They think that their theory is free from the defect of these unnecessary complications. A cognition which inheres in one cogniser cannot be connected with the cognition which inheres in some other cogniser. It can have connection with another cognition inhering in the same cogniser. Therefore, the cognition of the mark which inheres in a cogniser can produce the inferential cognition in that very cogniser.

Thus, the theory which regards the cognition of the mark as the logical condition of inference is simpler than the theory which holds the cognised mark as the logical condition of inference.

J.E. Johnson distinguished 'constitutive conditions' of inference from the epistemic conditions of inference. The Navya-Naiyāyikas who emphasise the distinction between the cognised mark and the cognition of the mark are making a similar distinction. The occurrence of the mark pervaded by 'sādhya' in a substratum is something objective. It is a necessary condition of inference. But it is only the constitutive condition of inference. A 'constitutive condition' as such cannot produce inferential cognition. It is the epistemic condition the cognition of the 'constitutive condition' which produces inferential cognition.

The constitutive conditions and the epistemic conditions of inference are described as follows: 'constitutive conditions, (i) p must be be true (ii) p must imply q. Epistemic conditions: (i) p must be known to be true (ii) p must be known to imply q without its being known that q is true.'

p and q are used here for propositions and not for terms. These conditions of inference enumerated above seem to correspond to the conditions of inference enumerated by Indian Logicians. The constitutive conditions correspond to the occurrence of the mark in a substratum (nakṣadharma) and (pervasion) (vyāpti). The epistemic conditions correspond to the cognition of the occurrence.
of the mark in a substratum and to the cognition that where there is 'hetu' (lima), there is 'sadhya', and 'where there is the absence of sadhya, there is the absence of hetu' without involving the cognition that there is sadhya in the pakśa. The second part of the second epistemic condition (without involving the cognition that there is sadhya in the pakśa) has been elaborately discussed by the Naiyāyikas under the head 'pakṣaṭā' which they regard as an independent condition of inference. This we shall discuss separately.

The above account of the analysis of the process of inference of the Navya-Naiyāyikas clearly indicates that inference or inferential cognition is an event which occurs in the mind (sould for the Naiyāyikas). It, therefore, cannot be separated from mind. Its immediate cause which produces it also must occur in the mind. Anything which is external to mind cannot be regarded as the immediate condition of inference. But the inferential cognition which is not directly produced by the stimulation of the sense-organs or by testimony is essentially a valid condition. The validity of inferential cognition depends upon the logical conditions, the logical connections which hold between the propositions independently of any cogniser. These logical conditions which determine the validity of the inferential cognition are the constitutive condition of inference. 'Vyāpti and paksadharmaṭā' are the constitutive conditions of inference.

How do 'vyāpti and paksadharmaṭā' lead to inference? Does the conclusion immediately follow from the given two premises - 'vyāpti and paksadharmaṭā'? The question can be formulated from the epistemic point of view: who do the cognition of 'vyāpti' and the cognition of 'paksadharmaṭā' produce inference? Is inference produce immediately by these two cognitions? The Viśiṣṭa Advaitins and the Advaita Vedantins hold that the cognition of 'vyāpti' and the cognition of 'paksadharmaṭā' give rise to inference immediately.

Why do the Naiyāyikas accept 'paramaśā' as the immediate condition of
inference? The Mimamsakas and the Vedantins hold that the cognition of 'vyapti' and the cognition of 'paksadharmata' are two epistemic conditions of inference. They hold that a person who perceives smoke on the hill and remembers that the smoke is pervaded by fire, infers from these two cognitions that the hill is fiery. If he reflects over the antecedent conditions of inference, he would realise that the inferential cognition was produced by two separate cognitions, one perceptual and the other recollective, and would not realize that the inferential cognition was preceded by an apperceptive cognition of the mark produced by the perception of the smoke on the hill and the recollection of the vyapti between smoke and fire jointly. Thus, at least in some cases, it is true that the two cognitions, the cognition of the mark occurring in the subject and the cognition that the mark is pervaded by the sadhya directly give rise to the inferential cognition. Therefore, it is wrong to hold that the inferential cognition is invariably preceded by one single cognition of the mark as qualified by two connections. For inference, what is necessary is simply this that the mark perceived as connected with the subject is in fact pervaded by the sadhya. For inference, it is not necessary that the cogniser has the cognition that the mark connected with the subject is pervaded by the sadhya.

The Mimamsakas also think that their theory is simpler than the theory of the Naiyayikas. While according to the former there are only three steps in the process of inference according to the latter there are four steps in the process of inference. The third step recognised by the Naiyayikas is redundant.

* The three steps in inference according to the Mimamsaka are: (1) Perception of the smoke on the hill, (2) Recollection of pervasion between smoke and fire (3) Inference or conclusion. The four steps according to the Nyaya are: (1) Perception of smoke on the hill (2) Recollection of Vyapti (pervasion) between smoke and fire (3) Paramarsa - the cognition that the hill possesses smoke pervaded by fire, (4) inference - the hill is fiery.
The Naiyāyikas justify the assumption of the third cognition of the mark (trtiyālingaparamārṣa) as the proximate condition of inference. They point out that some cases of inference cannot be explained on the basis of the Mīmāṁsakas' theory. For example, the following valid inference cannot be accounted for by the Mīmāṁsakas.

What is visible on the hill is either the smoke or the glow (aloka).
Both the smoke and the glow are pervaded by fire.
Therefore, the hill is possessed of fire.

In this case, the cogniser does not have the definite cognition of the mark connected with the subject, yet the inferential cognition is produced.

Moreover, according to the Mīmāṁsakas theory, 'the cognition that the hill is smoky', without involving the cognition that the smoke is pervaded by fire, should produce the information cognition that the 'hill is fiery', as the smoke which is known to be connected with the hill, is in fact, pervaded by fire, though it is not known to be so. The Mīmāṁsakas point out that what they hold is that the smoke which is perceived on the hill should also be known, at the same time, to be pervaded by fire.

The Naiyāyikas think that the Mīmāṁsakas cannot get out of the difficulty by presenting the above explanation of their theory. Suppose, two persons - Caitra and Maitra - perceive smoke on the hill. But only Caitra knows that the smoke is pervaded by fire. According to the Mīmāṁsakas' account of their theory even Maitra should have the inferential cognition that the hill is smoky as he has the knowledge of the connection of the hill with the smoke which is also cognised at the same time, though by a different person, as pervaded by fire. To state that the inferential cognition is produced in the same person who has the cognition of the connection of the mark with the subject and who also has the cognition that the mark is pervaded by the 'sadhya' does not remove the difficulty as it would mean that the causal conditions of every particular act of inference should be stated separately.
There is unlimited number of the persons who can make inference. Thus, the causal conditions of inference, according to this theory, cannot be stated in the generalised form. It is true that the cognisor and the thing inferred are not the same in every case of inference. But, when we are studying the problem of the general (causal) conditions of inference, we are concerned with the logical conditions of inference and not with the psychological—conditions which may vary from person to person and from a particular inference to a particular inference. Thus according to the Mimamsakas' theory, it is not possible to state the definition of inference in simple terms.

The Naiyayikas think that this theory does not involve the difficulty of stating separately the causal conditions of inference with regard to each and every person who makes inference. According to their theory, the cognition that 'the mark connected with the subject is pervaded by the sadhya' is the immediate condition of inference. The cognition, according to their general theory of knowledge, inheres in the soul. Consequently, it would produce the inferential cognition in the same soul in which it inheres.

The Mimamsakas think that the collective knowledge that 'smoke is pervaded by fire' and that 'the hill is fiery', is the instrumental condition of the inference that 'the hill is fiery'. The Naiyayikas, however, maintain that unless a person knows that the smoke which he perceives rising from the interior of the hill is pervaded by fire, he does not have sufficient reason to infer that the 'hill is fiery'.

I think that the Naiyayikas are right. What they have been emphasising is that the reason (hetu) known to be connected with 'paksha' should not only be identical with the reason which is known to be pervaded by 'sadhya' but must also be known to be so. Can a person infer anything from his knowledge that 'the hill is lit with light' and that 'smoke is pervaded by fire'? This is an example in which that which is known to be pervaded by 'sadhya' and that which is known to be connected with 'paksha' are clearly different. But it may
not be so clear in many other cases. The smoke which is constantly rising upward from the mountain and the smoke which is contained in a jar are both called as smoke. But the smoke which is constantly rising upward is not identical, as a whole with the smoke contained in the jar. Thus, even though we know that 'smoke is pervaded by fire and that 'there is smoke in the jar,' we cannot infer that there is fire in the jar, because we know that the smoke contained in the jar is not identical with the smoke which is pervaded by fire. The Naiyāyikas eliminate completely the possibility of ambiguity with regard to the mark (liṅga) by introducing the concept of 'parāmarsa'.

In the case of the verbal expression of 'inference' (parārthānumāna) 'upanaya', corresponds to 'parāmarsa'. According to Western Logicians, syllogism consists of three propositions. The Mīmāṃsakas and the Advaita Vedāntins also accept three membered syllogism. But the Naiyāyikas hold that a complete argument must consist of five members. Here we are concerned with the importance of 'parāmarsa' which corresponds to 'upanaya'. In a three membered syllogism, it is presumed that the middle term used in the major and the minor premises is identical but is not stated to be so. The Naiyāyikas seem to think that such an assumption is risky. They, therefore, insist that in a complete argument, the identity of that which is stated to be connected with 'pakṣa' and that which is stated to be pervaded by 'sādhyā' must be stated. Upanaya is the form of stating this identity.

In the case of inference proper (svārthānumāna), it is necessary that the cogniser must know that the mark (liṅga) which he knows to be connected with a particular place or time (pakṣa) in fact is identical with the mark which is earlier known to be pervaded by the 'liṅga'. This seems to be the correct account of the process of inference.

Thus, by means of the concept of 'parāmarsa', the Naiyāyikas seem to
emphasise two points with regard to the process of inference. First, the mark known to be connected with the particular thing of which something is to be inferred (pakṣa), is identical with the mark which is known to be pervaded by 'sādhya'. Secondly, the cogniser knows that the mark connected with 'pakṣa' is, in fact, identical with that which is known to be pervaded by 'sādhya'. It may be that a particular person may not be conscious of all the constituents of inference. But as a result of the analysis of the process of inference, it is to be admitted that inferential cognition is preceded immediately by the cognition that the mark connected with 'pakṣa' is identical with that which is pervaded by 'sādhya'.

The Śiṅgānakas' argument that the Naiyāyikas' hypothesis of 'parāmarśa' makes their theory of inference more complex than the theory of inference of the Śiṅgānakas is refuted by the Naiyāyikas by pointing out that the principle of brevity or simplicity (lāghava) should be adhered to that extent only to which the adequacy of the explanation of a given phenomenon is not affected. But when it becomes certain that a phenomenon cannot be adequately explained without accepting a particular hypothesis, the acceptance of that hypothesis cannot be regarded as a defect, even though it adds to the complexity of the theory. As inference cannot be explained without 'parāmarśa', it cannot but be accepted as the immediate condition of inference. 24

Uddyotakara who innovated the concept of 'parāmarśa' and Vācaspati Misra who expounded it explain in a very interesting way the relation of 'instrument' to its result with particular reference to the process of inference. The process of inference consists in effecting the cognition of a part as detached from the cognition of the 'whole'. The cognition of the 'whole' is the instrument. The cognition of the part is the result.

Uddyotakara raises a question: how is it that the cognition that 'P is possessed by S' immediately produces the cognition that...
'? is possessed of S'? That which is the object of the instrumental cognition is not the same as the object of the resultant cognition. That upon which the instrument falls is not the same as that which comes out as its consequence. When the instrument is not connected with both that upon which it works and the consequent result, how can it be maintained that the consequent result is the product of the instrument? How can the pestle (instrument) which falls upon paddy, produce the thumping of the grains of 'shyāmaka'.

In reply to this, some logicians maintain that there is no universal law that an instrument produces resultant action only pertaining to that on which it falls. For example, when a person cuts a tree with an instrument, the instrument falls on the tree but what falls as the result of this is not the tree but the parts of the tree. In some cases, however, the object on which an instrument operates and that in which the result is produced is the same. For example, cooking pertains to the rice-grains and the result of cooking is also produced in the rice-grains in the form of their being cooked.

The above explanation is rejected by Uddyotakara. He holds that the object of the instrumental cognition is not completely different from the object of the resultant cognition. Explaining Uddyotakara's above statement Vācaspāti Miśra says that it is not correct to hold that an instrument operates in relation to a thing completely different from the thing in which the result is produced. Here it so, a tree different from the tree which a wood-cutter strikes at by his axe should be divided into two parts. When a wood-cutter strikes at a tree by his axe, the axe touches the tree as well as its parts which fall apart from the tree. The branch of a tree is detached from the tree by the axe. Therefore, it is not correct to say that an instrument operates on one thing and its result is produced in another thing completely untouched by the instrument. Similarly when we think that we perceive the mark (liṅga) the mark is the object of the cognition because the perceptual judgment that
there is the mark would not be possible, if the mark were not present. Thus, the object of the cognition of the mark is the mark and not that of which it is the mark (liṅga). But while revealing the mark (liṅga) the cognition of the mark also embraces that of which it is the mark (liṅgū). It is not illogical to hold so as the mark by its very nature is related to that of which it is the mark. As the mark is naturally tied with that of which it is the mark, the cognition of the mark (liṅgaparāmārśa) takes for its object the mark as connected with that of which it is the mark and leads to the cognition of the latter as detached from the former. Just as an axe falling on a tree touches the tree as a synthetic whole of its parts but produces the detachment of a part from the tree, similarly, the liṅga-parāmārśa, the cognition of the mark, is the cognition of the mark as connected with that of which it is the mark (liṅga) and it leads to the detachment of the cognition of the liṅga from the cognition of the liṅga.

Thus, Vacaspati Misra explains that the function of parāmārśa is to detach the conclusion from the premises. Vyāpti and Paksadharmata, the two premises, collectively 'imply' parāmārśa which immediately leads to the conclusion.

VIII

PAKŚAṬĀ

THE MOTIVATIONAL CONDITION OF INFERENCE ACCORDING TO THE NYĀYA

The Naiyāyikas regard 'parāmārśa' as the immediate condition of inference. But 'liṅga-parāmārśa' is only the intellectual condition of the inferential knowledge. The intellectual condition of inferential knowledge is effective for its production only when its motivational condition is fulfilled. Now, the question is: under what motivational condition a person who perceives H on a particular thing, say, x and also realises that the H perceived on x is
pervaded by S will obtain the inferential cognition that 'x is possessed of S? This is tantamount to saying under what motivational conditions would x attain the status of \textit{paksasā}.

The motivational conditions, which lead to inference are expressed by the Sanskrit word 'paksatā' which literally means the status of a thing as \textit{paksā}.

The ancient Naiyāyikas hold that doubt regarding the existence of a possessed fact, say, 'x is possessed of S', is the essential motivational condition for ascertaining the same by means of inference. They define 'paksā' as the substratum where the existence of S (Sādhyā) is doubted. They maintain that if a person has already obtained definite knowledge that 'x is possessed of S, then he will have no motive to cognise the same again by means of inference. A person who perceives fire along with smoke in the kitchen does not indulge in the process of inferring fire from smoke. It has been declared by Vatsyāyana that the facts which are fully known or which are not known at all cannot become the objects of inferential reasoning.

Ganāśā, the founder of the Navya-Nyāya, criticises the ancient Naiyāyikas' analysis of the motivational conditions of inference. He points out that doubt regarding the existence of S on P cannot be regarded as the condition of inference as after H is perceived on p and the relation of pervasion between H and p is recollected, there remains no scope for entertaining any such doubt. A person who perceives smoke on the hill cannot infer the existence of fire there, if he has the knowledge that smoke is pervaded by fire. Now, if he is sure that the smoke which he is perceiving on the hill is pervaded by smoke, then he cannot have any doubt regarding the existence of fire on the hill. However, it is possible that the person who perceives smoke on the hill and also recollects that smoke is pervaded
by fire, may not already have any knowledge of the existence of fire on
the hill. Therefore, the absence of the knowledge of the existence of fire
on the hill should be regarded as the motivational condition to know the same
by means of inference and not the doubt regarding the existence of fire on
the hill.

Gaṅgāśa, however, holds that the absence of the knowledge that 'P
is possessed of S' is only one of the motives to know the same by means
of inference. It is not the only motive of inferring that 'P is possessed
of S'. The motive to infer something may be determined by the absence of
its knowledge. But 'to know something' is not the same as 'to know the same
thing by means of inference. Therefore, the knowledge of something does not
check the desire to know or ascertain the same thing by means of inference.

Persons are found inferring facts which they had known earlier by
some other means of cognition. For example, a person who has obtained the
knowledge of the existence of soul from the vedic texts, also indulges in
inferring the same from the osychic qualities. An object which is perceived
can also be inferred and when an object is inferred from its one specific
sign, it can also be inferred from its another sign. Thus, the knowledge of
what is to be inferred is not the deterrent for inferring the same (anumiti-
31
oratibandhaka).

The Navya - Naiyāyikas maintain that the knowledge of what is to be
inferred as such is not the deterrent condition of inference. According to
them the knowledge of what is to be inferred as qualified by the absence of
desire to infer the same is the deterrent for inference. Therefore, the
absence of the knowledge so qualified constitutes the motive to know the same
by means of inference.

According to Gaṅgāśa, 'Pakṣa' is that with regard to which there is
absence of the evidence of existence of 'Sādhya', as accompanied by the
absence of the desire to infer. Visvanātha defines 'pakṣā' as that in relation to which the knower does not have the knowledge of the existence of 'Sādhya' along with the absence of any desire to know the same by means of inference. Accordingly, 'Pakṣā', or the motivational condition for inferring something is defined as the absence of its knowledge as qualified by the absence of desire to infer the same. It means that the knowledge of a particular fact qualified by the absence of desire to infer the same serves as a deterrent for having its inferential cognition, and the absence of such a qualified knowledge of a particular fact determines the motive to have the inferential cognition of the same.

According to the Navya Naiyāyikas the absence of a qualified thing may be due to the absence of the qualifier (Vīśeṣāna) or the absence of the qualificand (Vīśeṣya) or the absence of both the qualifier and the qualificand. In the present case, the knowledge of a particular fact (siddhiḥ) and the absence of the desire to infer the same, respectively, form the qualificand and the qualifier of the qualified knowledge, the absence of which constitutes the motivational condition of inference. Thus, the motivational condition of inference is fulfilled.

1. When a person has the knowledge of a fact but still desires to have its inferential cognition. Here there is absence of the qualifier i.e. the absence of the absence of desire to infer.

OR

(2) When a person does not have the knowledge of a fact and also does not desire to know the same by means of 'inference'. Here there is absence of the qualificand.

OR

(3) When a person does not have the knowledge of a particular fact and also does not desire to know the same by means of inference. Here, there is the
absence of both, the qualificand (siddhih) and the qualifier (Sisadhayisevirahah)

The desire to know a particular fact by means of inference is not the essential motivational condition of inference as inference takes place without such a desire also. For example, a person, who hears the roar of thunder, involuntarily infers the existence of clouds in the sky. Thus, the ignorance of a fact is a sufficient motivational condition for cognising the same by means of inference irrespective of the presence or the absence of desire to infer it. Similarly, the fact that a person desires to know a fact by means of inference is the sufficient motivational condition for inferring it, irrespective of his already having or not having its knowledge. But if a person knows a fact and also has no desire to infer the same, then there is nothing to induce him to infer the same. In this case, there is the presence of the knowledge (Siddhih) qualified by the absence of the desire to know the same by means of inference.

Visvanātha points out that a few more points should be noted regarding 'pakṣeta' which has been defined as the absence of the knowledge of a particular fact qualified by the absence of desire to infer the same:

1. In case a person knows a particular fact and has also realised all the intellectual conditions for its inference, he will have the inferential knowledge of the same provided he desires to have its knowledge different in kind from the knowledge which he had already. For example, when a person perceives smoke pervaded by fire on the hill and simultaneously happens to perceive fire there, the inferential cognition of the same will not be produced if on realising the 'lihpaparamārṣa', he simply wishes that he should have some kind of knowledge of fire on the hill. The inferential cognition will be produced if he specifically desires to have the cognition of fire on the hill of the kind which is different from the perceptual cognition of the same.
(2) The desire to cognise a particular fact by means of inference should be connected with the same mark (liṅga) which has been cognised as existing in 'nākṣa' and also as pervaded by the 'sādhya'. Therefore, when a person, who has realised that the smoke which he is perceiving on the hill is pervaded by fire, desires to infer the existence of fire on the hill from illumination, the inference cannot take place as the desire to infer is not connected with the same mark (liṅga) regarding which it has been realised that it is pervaded by the predicate (sādhya), fire.

(3) When a person's cognition of a particular fact is accompanied by the absence of desire to have its inferential cognition, the knowledge of the fact will prevent the inferential knowledge of the same form. For example, a person, who has the knowledge that 'the hill is possessed of heat' or 'the rocky thing is possessed of fire,' will not be debarred thereby to have the inferential cognition in the form that the 'hill has fire.' Similarly, the knowledge that 'the hill is possessed of beautiful fire,' or that 'the beautiful hill is possessed of fire,' will not prevent the inferential cognition that the hill is possessed of fire.

(4) In a particular cognitive situation, if a person has realised the conditions both for perceiving and inferring a fact, and does not have specific desire to have its inferential cognition, then he will have perceptual cognition of the same. For example, a person looks at an object and doubts if it is a man or a post. Then, he realises that it has hands, head etc., which are pervaded by manliness. Now, he is in a position to cognise that the object is 'man' directly by means of perception as well as indirectly by means of inference. But if he is not specifically keen to have its inferential cognition, then the conditions of perception will supersede the conditions of inference and consequently the person will have its perceptual cognition. Thus, given the opportunities both for perceiving...
and inferring an object, a person automatically acquires its perceptual cognition provided he is not specially interested in having its inferential cognition. But this is true regarding only those cases in which the condition of perception and inference are related to the same object. In those cases, in which the perceptual and the inferential conditions fulfilled are related to different objects, the latter will overpower the former. Therefore, in such cases, if the knower does not voluntarily select to have the perceptual cognition, the inferential cognition will automatically be effected.

IX

THE FIVE CHARACTERISTICS OF VALID REASON
ACCORDING TO THE NYĀYA

The Naiyāyikas recognise five characteristics of valid reason. The Nyāya-theory of the five characteristics of valid reason goes along with the Nyāya theory of 'paramārśa'. The term 'paramārśa' describes the actual process of inferring which presupposes some logical and epistemic conditions. It should here be noted that according to the Naiyāyikas inference is the process of knowing a real thing which is not directly perceived. It is not merely a formal process of deduction. The conclusion of inference is true. The truth of the conclusion of inference depends upon the five-fold nature of the reason. The following are the five characteristics of valid reason—

1. It resides in the subject (pakṣa).
2. It resides in what is similar to the subject (sāmakṣa).
3. It does not reside in what is dissimilar to the subject (vipakṣa).
4. The existence of the predicate (śādhyā) to be proved by the reason in the subject (pakṣa) is not contradicted by any stronger proof, viz; perception or testimony.
5. The valid reason has
The Buddhist Logicians recognise, as we have seen, only the three characteristics of valid reason. They hold that the last two of the five characteristics enumerated above are redundant. Consequently, while the Naiyāyikas recognise five fallacies of reason (hetvābhāsas), the Buddhists recognise only three fallacies of reason. This distinction between the Nyāya-theory of valid reason and the Buddhists' theory of valid reason indicates the basic distinction between the two theories of inference.

The Buddhist Logicians hold that when the first three conditions of the reason are fulfilled, the other two conditions will be fulfilled automatically. Similarly, when either of the last two condition is not fulfilled, none of the first three conditions can be fulfilled. Therefore, it is redundant to recognise the last two of the five characteristics of valid reason as recognised by the Naiyāyikas.

They examine very thoroughly the Naiyāyika's claim of recognising the fourth condition viz: uncontradictedness (ābdhitatva) and conclude that the claim is baseless.

The Naiyāyikas hold that the argument that 'fire is non-hot because it is a product' is false simply because the reason does not fulfill the fourth condition. The conclusion proved by the reason is contradicted by perception. They think that in order to account for the falsity of such false arguments, it is necessary to accent uncontradictedness (ābdhitatva) as the characteristic of valid reason.
But the Buddhists contend that the argument cited by the Naiyayikas as an instance of uncontradicted reason is false because the reason mentioned therein does not fulfill any of the three conditions of a valid reason. The first condition of a Logical reason is that it exists in the subject (pakṣa). Only that property-possessor (dharma) of which a property is to be inferred can be regarded as the subject. But who will resort to inference to prove the existence of a property in a 'substratum' in which its non-existence is definitely proved by perception? Thus 'a substratum' in which the non-existence of a property is proved by perception cannot be regarded as the subject with regard to the inference of that property. The reason which is to be used to prove the existence of a property in a 'substratum' in which its non-existence is proved by perception cannot be regarded as existing in the subject as with regard to such a reason there is no subject.

The other two characteristics of valid reason are that the predicate (sādhya) is present wherever the reason (hetu) is present (anvaya) and that the reason is non-existent wherever the predicate (sāhyā) is non-existent (vyatireka). But the reason which is used to prove a conclusion which is contradicted by perception cannot have any of the above two characteristics. Then it is proved by perception that the 'substratum' taken to be the subject is the 'substratum' of the non-existence of the predicate and the 'substratum' of the existence of the reason, how can it be held with regard to such a reason that it is invariably accompanied by the predicate? Nor can it be held with regard to such a reason that the reason is non-existent wherever the predicate (sāhyā) is non-existent. When with regard to the fire, (the subject=pakṣa), it is proved by perception that it is hot, how can it be held that whatever is a product is non-hot? Then the proposition that 'whatever is a product is non-hot' is proved to be false, the proposition that 'whatever is not
not non-hot is not a product cannot be true as the truth of the latter presupposes the truth of the former.

A valid reason is such as is invariably accompanied by the predicate. This law applies to all the instances of the reason including the instance present in the subject. No inference is possible on the basis of the reason which is not universally accompanied by the predicate. It means that the reason must be accompanied by the predicate not only in the cases which are similar to the subject but also in the subject. The reason which is known to be existant in the subject in which the non-existence of the predicate is proved is fallacious reason because it is a variable reason i.e. because the predicate does not exist wherever the reason exists.

Thus, the conclusion proved by a reason having the three characteristics is not contradicted by perception or by any other proof.

THE DEFENCE OF THE THEORY OF FIVE FOLD REASON BY THE NYAYAYIKAS

Defending the Nyāya-theory of five characteristics of valid reason, Vacaspati Misra and Jayanta Bhatta mention that the basic assumptions on which the Nyāya theory of inference is based are different from those of the Buddhist Logic. The Nyāyāyikas are the realists. They regard inference as the means of cognising the external reality. The Buddhists, no doubt, regard inference as (true) knowledge, but by (true) knowledge they do not mean the knowledge of the external thing. They mean by it the knowledge which does not lead the cogniser astray. The Nyāya-theory of inference is based on the realistic metaphysics according to which 'universal' is a real entity over and above the particulars. The major premise (vyāpti) according to the Nyāya-theory of inference, states necessary relation of one 'Universal' with another 'Universal'. When it
is established by careful study that one thing is unconditionally accompanied by another thing, it is established that the former in its generic aspect is universally accompanied by the latter in its generic aspect.

The Buddhists do not accept the reality of 'Universal' over and above the particular. They contend that the notion of community (sabda) does not presuppose the ontological reality of the 'Universal'. They think that the notion of 'community' is only a thought-construct. They do not deny that the terms of inference are general. But they persistently stress the point that a general term does not mean a universal having existence in the external world. They also hold that vyapti— the major premise is the necessary relation between two general terms e.g. smoke and fire. But they do not mean thereby the connection of one Universal with another universal, as the universal has no reality. They mean thereby the connection of one general concept with another general concept. The connection of one general concept with another general concept is not known by perception as the concept being 'a priori' is not open to perception.

They hold that the connection between the reason (hetu) and the predicate (sadnya) is possible only in two ways: (1) when the reason is the effect of the predicate (2) when the predicate is the essence of the reason.

Vacasanati Prsra points out that the NAIyayikas do not hold like the Buddhists that the relation between the reason and the predicate is based either on the relation of 'being produced from' (tadatpatti) or on the relation of 'identity of essence' (tadatmya). According to the NAIyayikas, the relation of the reason with the predicate means unconditional relation.

It can be held that whatever is a product is non-hot like the jec because the relation of 'being non-hot' with 'being a product' is however to be based on 'tadatmya and tadatpatti' is not inconsistent with being Nirnadhika.
unconditional. Just as in the case of the relation of smoke with fire, wet fuel is the adventitious condition (unādhi), there is no such condition in the case of the relation of 'being non-hot' with 'being a product.' If there were any such condition, it would be noticed along with the jar, when a careful search is made for it. As it is not observed, it is established that it does not exist. Consequently, it is proved that the relation of, 'being non-hot' with 'being a product' is unconditional and hence universal. Thus, 'vyānti' between 'being a product' and 'being non-hot' is established in a general way. It is not established by complete enumeration.

By the careful use of the method of analysis and elimination, in the case of a jar, water, etc. it is proved that the relation between 'being a product' and 'being non-hot' is unconditional. Thus, it can be said that a thing is non-hot because it is a product.

The knowledge of Vyānti does not contain the knowledge of all the specific instances of the reason (hetu) as related with the predicate (sādhyā). It would be possible only when 'vyānti' were based on complete enumeration. But complete enumeration of the instances of a reason (hetu) e.g., 'product' is not possible. Had it been possible, inference could have been useless.

Now, a person who perceives a particular fire-whole being produced and who also remembers that 'whatever is a product is non-hot' is equipped with the data which justify the conclusion that the fire is non-hot. However, when he perceives fire as hot, he cannot hold the conclusion. Why? Does he not hold the conclusion because it is contradicted by perception or because on perceiving the fire as hot he realises that the concomitance between the reason and the predicate is only variable?

Vācaspāti Mīśra points out that the second explanation is not true
because the cogniser knows already that the concomitance between 'being a product' and 'being non-hot' is unconditional and hence, universal. The knowledge that the reason is invariably accompanied by the predicate consists in knowing that the reason in its generic aspect is accompanied by the predicate. It does not involve the knowledge of each and every concrete instance of the reason as being accompanied by the predicate. Thus, a person who knows that whatever is a product is non-hot and that the fire-whole is a product is ennobled with the data which formally lead to the conclusion that the fire-whole is non-hot. But the conclusion is false because it is contradicted by perception.

Cannot we hold that the perception of the fire-whole as hot proves the falsity of the conclusion by proving the falsity of the major premise (vyāpta)? The Naiyāyikas answer emphatically in the negative. The Major premise (vyāpta) is a prior condition of inference. Its truth is to be determined independently of the subject of inference (Pakṣa). Inference is not a process of testing the truth of a general law (vyāpta). It consists in the application of a general law to a particular case. The particular case to which a general law is applied in order to prove something of it cannot itself be a part of the evidence of the truth of the general law.

The knowledge of invariable concomitance between the reason and the predicate does not presuppose the knowledge of the co-existence of the reason and the predicate in the subject (Pakṣa). People resort to inference in order to know what is not already known by perception. If the knowledge of the co-existence of the predicate and the reason in the subject (Pakṣa) were the necessary condition of the knowledge of invariable concomitance between the reason and the predicate in general inference would be either redundant or impossible. If co-existence of the reason and the predicate in the subject were already known, inference would be redundant. If the co-existence of the predicate and the reason in the
subject were not known, inference would be impossible for want of the knowledge of the invariable concomitance between the reason and the predicate. Thus, to hold that the knowledge of the co-existence of the predicate and the reason in the subject is a condition of the knowledge of the invariable concomitance between the reason and the predicate is in general, cuts at the very root of inference.

The Naiyāyikas, thus, conclude that the inference that the fire is non-hot because it is a product, is false not because it is based on the variable concomitance between the reason and the predicate but because it is contradicted by perception. It is, therefore, necessary to recognise 'uncontradictedness (abādhītata) as the essential characteristic of the valid reason.

X

THE STRUCTURE OF THE 'INFERENCE FOR THE OTHERS'

(pararthanumāna)

The 'inference for others' is the verbal statement of the essential conditions of an inference. We have seen that all Indian Logicians do not hold the same view regarding the essential conditions of inference. The recognition of 'paramāraśa as the immediate condition of inference is, as we have seen, the distinctive feature of the Nyāya-theory of inference. The different schools of Indian Logic, also do not hold one view regarding the number of the constituent members of the inference for others. According to the Nyāya and the Vaisēṣika there are five members of the inference for others. The Rūmīsakas and the Advait Vedāntins hold that it consists of three members. According to the Buddhist Logicians, it consists of two members only.
The Nyāya and the Vaiśeṣika logicians hold that inference for others is a composite statement consisting of five organs, though they call them by different names. According to the Nyāya, the five members of the inference for others are called as, 'pratijñā, hetu, udāharaṇa, upanayā and nigamana.' The vaiśeṣika logicians call them as 'pratijñā, āpadesa, nidarsana, nusandhana and āpratyamana.' The following is the form of 'inference for others' recognised by the Nyāya - vaiśeṣika.

1. The mountain is fiery (thesis - pratijñā)
2. For it is smoky (reason - hetu)
3. Whatever is smoky is fiery, e.g. a kitchen (exemplification - udāharaṇa).
4. And so is this (application - upanayā)
5. Therefore, it is such i.e. the mountain is fiery, (conclusion - nigamana)

The third, organ may also be stated negatively where possible in the following way: Whatever is not fiery is not smoky e.g. a lake.

THE THESIS ('PRATIJÑĀ')

The thesis is the declaration of a proposition which is to be proved. It is the declaration of the subject (paksā) as qualified by the predicate which is to be proved of it. Ārasaṇānanda defines it as the statement of a proposition which is to be proved and which is not contradicted by any other proof.

THE REASON ('APADESA')

The statement of the reason is called the 'reason.' The reason may be exclusively affirmative (kevalānvaśī) exclusively negative (kevala vyatirekī) and affirmative - negative (āvaya-vyatirekī).
EXEMPLARYIZATION (UDHARANA OR UDARSA)  

The statement which expresses the invariable concomitance between the reason and the predicate (vyāpti) along with an illustration is called exemplification, Udārana. It is, as Prasastapāda declares, the statement of the invariable concomitance between the generic nature of the reason and the generic nature of the predicate. It is of two kinds. It is either the statement of the invariable concomitance of the reason with the predicate or the statement of the invariable concomitance between the absence of the reason and the absence of the predicate. 

APPLICATION (UPANAYA OR ANUSANDHĀNA)  

It states the application of the general law of the invariable concomitance between the generic character of the reason and the generic character of the predicate to the subject. It expresses that the reason which is invariably concomitant with the predicate is connected with the subject. 

CONCLUSION (NIGAMANA)  

The conclusion is defined by Gautama as the restatement of the proposition which is proved by the reason. Vatsyayana explains it as the statement which synthesises all the four previous organs to prove a proposition. 

NUMBER OF THE ORGANS OF THE INFERENCE FOR OTHERS' ACCORDING TO PŪRVA MIMĀMSĀ AND ADVAITAVEDANTA  

The Nīmaṃśakas and the Advaitavedāntins hold that there are three members of a demonstrative inference. The verbal exposition of an inference consists of three parts only. There are only three factors of inference: (1) Invariable concomitance (vyāpti) (2) the presence of the reason in the subject (pakṣadhamata) and (3) the conclusion. Therefore, the statement of an inference should consist of three parts only. Of the
thesis and the conclusion only one should be stated.

It is not necessary to state the conclusion only in the end. It may even be stated in the beginning as a proposition to be proved.

In some cases, we know the conclusion and adduce its premises. In some other cases, the premises are first given and a conclusion is deduced from them. Thus, 'the inference for others' should consist either of thesis, exemplification and application (upanaya) or of exemplification, application and conclusion.

**THE STRUCTURE OF 'THE INFERENCE FOR OTHERS' ACCORDING TO THE BUDDHISTS.**

According to the Buddhists, the 'inference for others' is the statement of the three aspects of the valid reason. The three aspects of the valid reason are stated in the following way:-(1) the reason exists in the similar instances only, (2) it never exists in the dissimilar instance, (3) It exists in the subject wholly. The first two aspects are stated in the major premise, the third aspect is stated in the minor premise. The Buddhist logicians think that it is superfluous to state the conclusion as a person who knows the major and the minor premises can work out the conclusion himself.

A little reflection will show that there is no material difference between the statements of the first and the second aspects of the valid reason. These are the two ways of stating the necessary relation between 'hetu' and 'sūdhyā'. The syllogism may, thus, take two forms according to the two ways of formulating the major premise. For example:

**A.** All products are impermanent (major premise) e.g. a jar (example)
   The sounds of speech are such products. (minor premise)

**B.** The eternal entities are known not to be products (major premise) e.g. space (example)
   The sounds of speech are products (minor premise).
In both the cases, the conclusion will be the same i.e. the sounds of speech are impermanent. These are the two forms of the same inference.

These two forms of syllogism do not state two inferences. The inference is one as the material content of the major premises of the above formulations of syllogism is the same. Both the forms are valid. One form of the major premise implies the other form.

THE JUSTIFICATION OF THE FIVE ORGANS OF THE INFERENCE FOR OTHERS BY THE NAIYĀVYIKAS

All the Indian Logicians recognise the importance of stating the Law of vyānti and its application to a particular case. The difference of opinion arises regarding the other three members of the five-membered verbal exposition of inference accepted by the Nyāya and the Vaiśeṣika.

The Nyāya-vaiśeṣikas hold that the statement of thesis as well as of the conclusion is essential in demonstrating an inference to others. Pointing out the importance of the thesis as an indispensable organ of the syllogism Jayanta says, "when a person desires to demonstrate his ascertained inference to another person, he must first state the subject, the properly-possessor (pākṣa or dharmi) in relation to which a predicate, a property is to be proved, because if the subject is not stated first, the reason to be stated in the second step will be without a 'substratum', i.e. it will not express pākṣadharmaḥ. The statement of the property to be proved as the predicate of the subject is also necessary to draw the attention of the hearer to what is going to be proved. The statement of the subject e.g. the sound of speech, does not arouse any curiosity in the hearer. But the statement of a proposition e.g. the sound of speech is non-eternal, 'arouses curiosity in the hearer regarding, its proof which is to be stated subsequently.
JUSTIFICATION OF THE FOURTH MEMBER - APPLICATION (Upanaya)

The Mimamsakas and the Advaita Vedantins do not recognise the necessity of stating 'upanaya' over and above the thesis, the reason and the exemplification. The proposition to be proved is stated as 'pratijna'. The connection of the reason with the subject is stated in the second step. The proof of the validity of the reason is stated in the third step. The fourth member is, thus, redundant.

Some Nyaya-vaisesikas justify the necessity of the fourth organ by pointing out that it states the connection of the reason with the subject (paksadharmatn). They think that it is not stated by the second member which merely states the reason without mentioning its connection with some substratum.

Jayanta does not accept this explanation. He points out that the statement of the reason in the second step after the statement of the proposition clearly expresses the relation of hetu to suddna. It may also be urged by the Nyayyikas that the fourth member is essential to state 'paramarsa' which is the immediate condition of inference. To this, the opponent may point out that he does not regard 'paramarsa' as the essential condition of inference. Even if 'paramarsa' is regarded as a step in the psychological process of inference, its statement in words carries no logical significance. The listener to an argument is interested in only the logical constituents of inference. These constituents can be stated in the three membered syllogism. Thus, the opponent thinks that the Nyayyika sticks to his theory of the five-membered syllogism owing to his unnecessary attachment to his innovation.

Jayanta tries to refute all these objections levelled against the necessity of the fourth member. He points out that while demonstrating
an inference to another person, a person should follow his own psychological process by which he arrived at the conclusion. One cannot have direct probe into the capacity of understanding of another person. The psychological process of inference is as follows: First, a person observes \( \mathfrak{p} \) that is referred to by the minor term e.g. the hill. This is stated by the proposition (pratijñā). Next, he perceives the mark as connected with the \( \mathfrak{p} \) e.g. the smoke rising from the hill. This is expressed by the statement of the reason - the second member. Next, he recollects the invariable concomitance between the mark (smoke) and the \( \mathfrak{s} \) (fire) this is stated by the statement of example. The recollection of \( \mathfrak{y} \) is followed by the knowledge that the smoke which is perceived on the hill is concomitant with fire. \( \mathfrak{c} \) (Paramāra). This is stated by 'application' (upaniṣaya, the fourth member. Finally, the cognition that 'there is fire on the hill' is produced. This is expressed by the fifth member - the conclusion. The \( \text{Paramāra} \) is not a casual condition of inference. Therefore, it must be stated in a demonstrative statement also.

The statement of the fourth member is necessary even if \( \text{Paramāra} \) is rejected as an essential stage in the process of inference. The second member states the existence of the 'mark' in the 'nākṣa'. The third member states the invariable concomitance, between the mark in general and the \( \mathfrak{s} \) in general. After having heard these two statements a person may still be indoubt whether the mark reported to be existing in 'nākṣa' by the second member is such as is invariably concomitant with the \( \mathfrak{s} \). In order to remove this doubt and to confirm that the reason reported to be existing in 'nākṣa' is really concomitant with the \( \mathfrak{s} \), the use of the fourth member is necessary.
The function of the fifth member. Nigamana or Pratyamanaya is the re-statement of the proposition. Does this re-statement of the proposition serve any specific function? Prasastanada replies that the function of the fifth member is not the same as that of the first member. The first member (Pratijna) states the proposition which is to be proved. The certainty about what is asserted by the first member is conveyed by the fifth member.

Sridhara explains that the first member states the proposition to be proved. It is mere assertion of a proposition. Mere assertion of a proposition does not mean that the proposition is true. The proof regarding its truth is not yet stated. In order to prove its truth the reason is stated in the second member. But the certainty of the reason also is to be demonstrated. It is demonstrated in the third and fourth members. The fifth member emphasises that the truth of the proposition set forth by the first member has been proved beyond any doubt.

Regarding the usefulness of the fifth member Prasastanada, further, emphasises that it fulfils a function which cannot be fulfilled by the other members—whether collectively or separately. Explaining this point, Sridhara points out that each member of the five-membered statement has its own function. That is conveyed by one of the first four members cannot be conveyed by any other member. Each member, by its nature, is unrelated to the other. The function of each member (Pratijna etc) is nothing more than to convey its own meaning. But, unless all the members are synthesised in one whole, the unitary meaning which is the function of an argument to convey cannot be conveyed. This function cannot be fulfilled by any other member but the fifth member. The fifth member conveys the unitary meaning by synthesising all the members in
composite argument. It begins with 'therefore' which expresses the bearing of all the members on one problem.

The statement of the inferred conclusion after having stated (paramarsa) in the fourth step is not superfluous as it shows that the cogency of the reason is not vitiated by any equally valid counter-reason or by the contradictory verdict of any other 'paramana'.

It may be suggested that all the five steps of an argument need not necessarily be stated. The bearer may be left to supply one or more premises himself. To this suggestion, Sridhara replies that, 'the inference for another' is not advanced towards an instructed person. It is addressed to a person who is ignorant, or has wrong notion, or is in doubt. It cannot be presumed whether the hearer is capable of supplying one or more premises himself. Therefore, in an argument, all the five members should be stated so that the bearer who may be completely ignorant of the subject may understand it clearly.

CONCLUSION

The Nyāya theory of the five-membered 'inference for others' is based on their theory of 'paramarsa'. The fourth member called 'upanaya' corresponds to 'paramarsa'. Therefore, its value as a form of stating inference for others is determined by the value of 'paramarsa'. Therefore most of the logicians who do not recognise 'paramarsa' as the essential condition of inference do not accept the five-membered form of stating one's own inference for the sake of others. But, Jayanta rightly maintains that though 'upanaya' corresponds to 'paramarsa', the former has its value even independently of the latter. Upanaya expresses the identity of the 'hetu' used in the major premise with the 'hetu' used in the minor premise. Sridhara who does not accept 'paramarsa' out
The five membered form of stating an inference was originally a form of stating an argument in debate. As a form of argument it has great value. It is the flawless method of putting forward an argument. A person who follows this method of argumentation carries the listener with him. It does not presuppose any intellectual standard of the listener. It is well suited to the ignorant, the confused, the deluded and the learned persons. The Naiyayikas also take pride in their five-membered method of argumentation because they think that it embodies all the four 'pramanas' recognised by them. The proposition is regarded as embodying the testimony. The reason (udaharana) is the inference. The example is the embodiment of the perception. The application is the comparison. But this sort of justification of the five-membered argumentation does not have much appeal to those who do not regard testimony and comparison as independent sources of valid cognition.

THE SIGNIFICANCE OF UDARARNA AS A PART OF INDIAN SYLLOGISM

The special feature of Indian demonstrative inference (nārāthana) which distinguishes it from the Western syllogism lies in its inductive-deductive nature. The third member of the Nyaya-demonstrative inference called Udāharana, consists of two parts. The first part is the statement of the law of invariable concomitance between 'hetu' and 'sādhyā'. The second part is the statement of an instance of that law. Thus statement of an instance along with the statement of the law of invariable concomitance forms an essential part of the demonstrative inference according to all the schools of Indian Logic, which have wide differences regarding the number of its parts. It is very natural to ask the question: what is the significance of the statement of an instance along with the statement of
Different answers have been put forward to this question by the different scholars.

Jitter thinks that, "By the introduction of an example in the third (member), the universality of the conclusion is vitiated." Perhaps Jitter thinks that if an instance of a law is cited along with the statement of the law, the universality of the law will be vitiated. But this is obviously wrong. An instance of a law shows the application of that law in the field of nature. The citation of a specific instance of a law along with the statement of that law does not, in any way, imply that the law is limited to that instance only.

Maxmuller thinks that the function of the example in Gautama's syllogism is to indicate its modality. He says, "But if we enquire more carefully, we find that the instance in Gautama's syllogism has its own distinct office, not to strengthen or to limit the universal proposition but to indicate, if I may say so, its modality. Every vyapti must of course admit at least one instance. These instances may be either positive only, or negative only, or both positive and negative." Thus, according to Maxmuller, the function of the example in Gautama's syllogism is to show whether the invariable concomitance is positive only or negative only or both. As a matter of fact, the followers of Gautama also give this explanation of stating 'example' along with universal proposition. For example, Jayanta says, "In the Sūtra 'tatpūrvakam' Gautam states only the method by which 'vyapti' is obtained. But here in Sutra 1.1,36 which states the definition of 'usnārana', he intends to state the modality (svaṛūpa) of 'vyapti'".

This theory is correct as it takes note of the positive and negative instances. But it does not refer to the real function of the
instance in syllogism. The positive or negative character of vyāpti is expressed in the statement of 'vyāpti' itself, which precedes the statement of the instance. Thus, it is not correct to say that the function of the instance as a part of syllogism is to show the positive or negative character of vyāpti. The function of Udāhārana is not simply to indicate the positive or negative or positive - negative character of vyāpti, as it is already stated, but to provide an empirical evidence of its modality. It explains only why a vyāpti is positive, negative or positive - negative. A vyāpti, as Maxmuller, points out, must admit of an instance. It is purely positive when it admits of positive instance only. It is purely negative when it admits of purely negative instances only. It is both positive and negative when it admits of both kinds of examples.

The real function of the instance as a part of syllogism is to indicate the inductive method by which the vyāpti is obtained. Though Gautama and Vatsyayana do not explicitly state vyāpti as the major premise of the syllogism, yet it is not correct to hold that they did not realise the importance of the law of necessary relation between hetu and sādhyā. Gautama's two śūtras 1-1-36 and 1-1-37 which define the positive and the negative instances respectively refer to the two methods of induction - the method of agreement and the method of difference. It is not very clear whether Gautama recognised a purely positive and a purely negative reason. Perhaps, it was Uddyotakara who, for the first time, recognised the three kinds of the reasons viz: (1) purely positive reason (2) purely negative reason (3) and positive-negative reasons. The other systems of Indian Logic do not recognise the purely positive and the purely negative reason. They emphasise the positive and negative character of the valid reason. Even in the Nyāya system of
Logic which recognises the three kinds of valid reason, the positive-negative reason, occupies the most important position. It means that the general trend of Indian Logic is to put stress on the positive-cum-negative vyāpti as the basis of syllogism. This positive-cum-negative vyāpti is obtained by the joint method of agreement and difference. The citation of the positive and the negative instances along with the statement of the positive and negative vyāpti respectively refers to the method by which the vyāpti has been obtained. There cannot be a vyāpti without an instance. A law and its instance are inseparable. There is no law without an instance, and a fact cannot be called an instance of a law if the former does not embody the latter. Though in the case of nature, the law is prior to its instances, yet in the case of the cognition of a law, it is the instance of the law which is first cognised and the abstract law which it embodies is cognised later on. The law of invariable concomitance which is regarded as the essential basis of inference must be derived from induction.

The instance confirms that the major premise is a real proposition i.e. it is not an empty proposition. We are, thus, led to hold that the citation of an instance along with the statement of vyāpti signifies that the syllogism is not purely deductive - but it is inductive - deductive in nature. In the words of Dr. Seal, "it harmonies Mill's view of the major premise as a brief memorandum of like instances already observed, with the Aristotalian view of it as the universal proposition which is the formal ground of the inference.