PART - I
CHAPTER - 1

INTRODUCTION
CHAPTER - 1
INTRODUCTION

1.0 India has a great heritage of philosophical traditions. These traditions have emerged because of prolonged intellectual activities. The tradition which begins with the Vedic period has contributed to the human knowledge in various ways. It has given birth to several disciplines of knowledge.

One striking feature is the close analysis of language and reality, which gave rise to analytic Indian philosophical system.

There are six prominent schools of Indian-philosophy namely, 1) *Nyāya*; 2) *Vaiśeṣika*; 3) *Sāṃkhya*; 4) *Yoga*; 5) *Pūrva- Mīmāṃsā* and 6) *Uttara - Mīmāṃsā* or *Vedānta*. These schools are called āstika-darśanas as they believe in the authority of the *Vedas* while the other two schools of Indian philosophy namely Jainism and Buddhism are called Nāstika-darśanas which do not believe in the *Vedas*. The Čārvāka - school too did not accept the *Vedas* as authoritative.

Among these six schools, The school of *Nyāya - Vaiśeṣika* and that of *Mīmāṃsā* are very important. The former deals with *Pramāṇas* or means of right knowledge, whereas latter deals with the interpretation of
the vedic-sentences. Thus, the knowledge of both the schools is necessary for the thorough understanding of Indian philosophy.

Nyāya - Vaiśeṣika school is prominently known as science of reasoning i.e. Tarkaśāstra or Nyāyaśāstra. It is reasoning that makes human beings as rational beings.

Vātsyāyana observes Ānvikṣikī is the substratum of all the dharmas, it is a means of all acts and it is a lamp which illuminates all disciplines. It is also called as 'Hetu-vidyā'; Hetu-śāstra, Tarka- śāstra, Prāmaṇa - śāstra etc.

In Indian philosophy two types of Nyāya - śāstra are mentioned. One is āstika- Nyāya which follows the Vedic doctrins and another is nāstika- Nyāya which contradicts or which does not believe in Vedas such as Jaina - Nyāya and Bauddha - Nyāya. Among these the Nyāya - śāstra which is composed by Gautama is what is called Nyāya - śāstra or Nyāya - darśana. The ultimate aim of the Nyāya - darśana is getting salvation through the knowledge of reality, which can be obtained by the true or real or correct knowledge of 16 padārthas.

Through the correct knowledge of these sixteen padārthas one can get liberation from bondage.
The development of Nyāya has two phases and accordingly they are called Prācīna- Nyāya or Ancient - Nyāya and Navya - Nyāya or New - Nyāya. The basic difference between these two branches is in the fact that the former has given prominence to the prameya or object of knowledge and latter gives prominence to the pramanas or means of right knowledge.

The language of both the branches is also different. The language of ancient - Nyāya is almost natural and therefore, ambiguous and that of New- Nyāya is artificial and hence very precise.

Mīmāṃsā system is popularly known as the system of sentence meaning (Vākyārtha- śāstra). Its immediate concern was to evolve a system of interpretation of sentences related to vedic ritual. Although initially the purpose alone, gradually they got involved in philosophical issues too.

The primary text of Mīmāṃsā system is Mīmāṃsā-śūtras composed by Jaimini.

Like Nyāya - system, Mīmāṃsā system has also two lines of development. The development assumed the forms of two schools namely the Bhāṣya School and the Prābhākara School.
Two great philosophers Kumārila - Bhaṭṭa and Prabhākara Miśra wrote commentaries on the same text namely the Śābarabhāṣya giving rise to two distinct schools mentioned above.

1.1 Historical-Background

The primary text of Nyāya - system is Nyāya - sūtra composed by Medhāthiti - Gautama who is also known as Aksapāda. His time is mentioned by eminent Scholars 550 B.C. He belongs to Mithilā hence, the birth-place of Nyāya - śāstra is Mithilā and Gautama is the founder of Nyāya - darśana.

These Nyāya - sūtras are divided into five chapters and each chapter is further divided into two āṅhikas. Total sūtras are five hundred and twenty eight.

Gangśopādhyāya, the great logician of 14th century of Mithilā, is the founder of Navya - Nyāya system of logic. Although Śaśadhara preceded Gangeśa, a logical formation to the system was given by Gangeśa alone. Vardhamāna Upādhyāya was Gangeśa's son and he was a great logician like his father.
Gangeśopādhyāya wrote the famous book Tattvacintāmaṇi, which is a fundamental text of Navya- Nyāya.

As it is already stated that the Pramāṇa-vicāra is the main focus of Navya- Nyāya. The system states that through the means of right knowledge one can have the knowledge of reality. These are four such means of right cognitions. They are as follows.

i) Pratyakṣa or perception:-

Pratyakṣa or perception is an instrument of perceptual cognition. A perceptual cognition arises through the contact of sense-organs with their objects. For example there is pot on the earth. When a person perceives the pot a contact between his eye (sense-organ) and pot(object) takes place and then there arises perceptual-cognition of pot. Since, there are five sense-organs the perceptual - cognition is also of five types. Logicians describe 'Mental - perception' also. Thus, the process of perceptual cognition given by logicians is The soul gets connected with the mind, then mind gets connected with the sense-organ, then sense-organs gets connected with object and then the perceptual-cognition arises.

The perceptual cognition is of two types. One is indeterminate which arises immediately after the contact of sense-organs and object in
the form 'idam kṣicit'. And after the indeterminate perception there arises determinate cognition which gives the true-cognition regarding the form colour etc., of the object. For example, this is a pot and it is of red-colour.

ii) *Anumāna* or inference.

*Anumāna* is defined by logicians as the instrument of inferential cognition. Inferential-cognition arises through the knowledge of parāmarśa. Suppose, a man who has perceived the invariable relationship of smoke and fire on many places, when afterwards he sees the smoke existing on the mountain he remembers that "where there is smoke there is fire". Then he confirms that the smoke which is pervaded by fire, exists on the mountain. This confirmatory knowledge is called parāmarśa which works in the process as operation (Vyāpāra) and then inferential cognition arises. Thus, there are at least four steps in the process of inferential cognition:

1. Perception of mark on the subject,
2. Remembrance of invariable concomitance,
3. Confirmatory knowledge,
4. Inferential knowledge.

The process of inference has five parts namely, i) *Pratijñā* - The mountain - possesses fire.
ii) *Hetu* - Because of smoke.

iii) *Udāharaṇa* - (Which demonstrates the sentence of invariable concomitance) - where there is smoke there is fire as in the kitchen etc.

iv) *Upanaya (Parāmarśa)* - The mountain possesses the smoke which is pervaded by fire.

v) *Nigamana* - (conclusion) - Therefore, the mountain possesses fire.

So, these are the five steps in the process of the inference is of two types i) *Svārthānumāna* or inference for oneself, ii) *Parārthānumāna* or inference for others. Both the types of inference arise from the above said factors; only difference is, in *svārthānumāna* the process is mental process without any verbal behaviour while in the *parārthānumāna* involves verbal behaviour.

iii) *Upamāna* or Anology: *Upamāna* or analogy is the third means of right cognition which arises through the knowledge of similarity. The instrument of anological - cognition is *upamāna* or analogy. Anology causes the knowledge of relationship between a term and the object indicated by the term. For example, A person who does not know what 'gavaya' is asks some other person who stays in the forest. The forest person says that 'Gavaya' is like 'Go' (cow). After some days the person
(who does not know 'gavaya') when goes to forest and sees there an animal like cow, he remembers the sentence uttered by the forest person that is "gavaya is like cow," and then he gets the knowledge that this is the animal 'gavaya' which is denoted by the term 'gavaya' and which has similarity of cow.

The process of upamāna thus, arises in following manner.

i) The knowledge of similarity which is called as instrument of anological-cognition.

ii) The remembrance of atideśavākya.

iii) The anological cognition of the relationship between a word and its meaning.

IV) Verbal - testimony: The knowledge which arises from a sentence is called śabdabodha or verbal-cognition. The knowledge of meaning of sentence is called verbal-cognition and the instrument of the cognition is Šabda obviously uttered by an authentical person.

For example, when one understands the meaning of a sentence of a reliable person, it is the case of Šabda.
It follows the following process

i) The knowledge of *pada* or terms;

ii) The remembrance of *pada*;

iii) The knowledge of relation between *pada* and its meaning;

iv) Verbal cognition.

*Sabda* is divided into two types: i) Vedic sentences, and ii) *Laukika* sentences.

Vedic sentences are uttered by the God hence, they are completely authentic, and in case of *laukika* sentence the sentence uttered by authentic person are only the means of right verbal cognition.

These are the four means namely, i) Perception; ii) Inference; iii) Analogy; and iv) Verbal testimony of right knowledge accepted by the *Natyāyikas*.

*Pramāṇas* in *Mīmāṃsā* - system.

The *Mīmāṃsakas* hold the view that causal - relationship between *yāga* and its *phala* expressed by the vedic injunctions cannot be known by any other way of knowing excepting the vedas themselves. To demonstrate this they discuss six ways of knowing. They are (1)
Pratyakṣa or perception; 2) Anumāṇa or inference; 3) Śabda or verbal testimony; 4) Upamāna or analogy; 5) Arthāpatti or presumption; and 6) Anupalabdhi or absence with regard to the first four means namely (1) Perception; (2) Inference; (3) Verbal testimony; and (4) Analogy the view of Mīmāṁsakas and that of Naiyāyikas are almost the same. Very slight difference is there between these two systems.

(1) Perception - Mīmāṁsakas define perception as follows, "The cognition which arises through the proper contact of sense-organs is called perception." There are six organs namely eyes, tongue, nose, skin, ears and mind. Through the real contact of these sense organs with their objects there arises the perceptual cognition.

According to the Bhāṭṭas the contact of sense-organs with their objects is of two types, i) Samyoga or conjunction means the contact (of sense-organs) with the substance like earth, water etc. and ii) Sanyukta - tādātmya - or identity (relation) with what is conjoined. Through this contact one has the knowledge of qualities, actions and universals of substance because indirectly they are also related with the substances through the relation of identity.
Prābhākara school opines that perception is 'direct apprehension' which arises through the three kinds of contact namely (1) conjunction; (2) inherence with what is conjoined; and (3) inherence.

The perceptual cognition is of two types. 1) Indeterminate perceptual cognition and 2) determinate perceptual cognition. The first arises immediately after the contact of sense organs with some object. It is called nirvikalpaka - perception but when even after the indeterminate perception the contact of sense organs with that object is continued there arises the knowledge of that object as possessing some qualities forms etc. This perceptual cognition is called as savikalpaka - Pratyakṣa or determinate perception.

ii) Anumāna - According to Mīmāṃsakas inference is the knowledge by a person who already knows the relationship (between hetu or probans and sādhyā and probandum) of the sādhyā or probandum which is beyond the range of sense organ and which is another part, on the basis of the knowledge of its one part.

For instance, a man who knows the invariable relationship between smoke and fire when perceives the smoke which is one part or relatum of the known relationship, immediately remembers that "where there is
smoke there is fire" i.e. invariable concomitance between *hetu* and *sādhyā*. And then he has the knowledge that the mountain possesses fire.

*Mīmāṃsakas* have mentioned three steps in this process of inference. (1) *Pratijñā* or assertion of probandum as existing on subject - mountain possesses fire. (ii) *Hetu* or reason or probans - because it possesses fire. iii) *Udāharaṇa* or the sentence which demonstrates invariable - concomitance between probans and probandum - 'where there is smoke there is fire as in the kitchen' etc. After these three steps there arises the inferential cognition that "the mountain possesses fire."

Both the schools namely the *Bhāṭṭa* and *Prābhākara* are of the same opinion regarding inference.

iii) *Śabda* or Verbal testimony:

The *Naiyāyikas* place *upamāṇa Pramāṇa* after the inference but *Mīmāṃsakas* place *Śabda* after inference and before *upamāṇa* or analogy. They define *Śabda* as 'the cognition of meaning of sentence which is not in contact with the sense organs after having the remembrance of meaning of word (*padas*) (which is known) after the knowledge of words (*padas*) is called *śabda Pramāṇa*. When a child frequently sees an action of bringing a cow, after the utterance of the words 'bring the cow' by a
person he has the knowledge of the word namely 'cow' and the object denoted by the word. This knowledge of the word is called as verbal-cognition which arises through the verbal behaviour of a person.

According to Mīmāṁsākās the verbal knowledge is well known in the world.

The verbal testimony is of two types i) Pauruṣeya - The sentence which is uttered by authentic person; and ii) Apauruṣeya - The sentences of Vedas. Both the types are said by authority hence they are authentic.

Since Mīmāṁsā is the system of sentence meaning, the verbal testimony or śabda-Pramāṇa is very important in its system. Both the schools of Mīmāṁsā are of the same opinion.

iv) Upamāna or analogy

"The knowledge of similarity of the object which is not in contact with sense organs which is known through the remembered meaning (of that object) from the similarity of the object which is being seen is called 'upamiti' or analogical cognition."¹⁸ As after the knowledge of similarity in 'gavaya' of a cow, there arises the remembrance of similarity of cow in 'gavaya' which in the contact with the sense organs i.e., eyes at present,
and then there arises the knowledge 'the cow is similar to gavayā'. This process of knowing is called upamāna or analogy.

According to Mīmāṃsākās the analogical cognition arises from the knowledge of similarity as well as dissimilarity also.

v) Arthāpatti -

Arthāpatti is defined as "the knowledge of an object which can not be known by any other means and hence assumption of which gives rise to the knowledge is called as 'arthāpatti'." For example when one knows that Devadatta is alive and he is not at home naturally one assumes that Devadatta must be existing somewhere outside. This assumption of the existence of Devadatta outside of the house is acquired through the means i.e., arthāpatti.

The arthāpatti is of two types i) Drṣṭārthāpatti which is described above and ii) Śrutārthāpatti - when somebody says that 'the fat Devadatta does not 'eat' during day, then the hearer assumes that the fat Devadatta must be eating during night. Otherwise his fatness is not possible. Thus the 'eating of Devadatta at night' is known through the process of arthāpatti.
vi) Anupalabdhi - Absence

This means of right knowledge is accepted by the Bhāṭṭa school only and not by the Prābhākaras.

According to the system absence or abhāva is also a means of right knowledge as it gives the knowledge of absence of an object which is not in contact with sense organs. In the example 'there is no pot' what one knows is the absence of pot. According to the Bhāṭṭas the absence of pot can not be known through perception, because there is no contact between sense organs and any positive entity. Similarly, it can not be known by other means of knowledge also. Therefore, one has to accept a separate means of right knowledge for the knowledge of absence. Thus, the absence is the sixth means of knowledge.

Thus, the Mīmāṃsakas have accepted six means of right knowledge unlike the four accepted by the Naiyāyikas.

According to Nyāya system, the knowledge of absence of an object is possible through perception. Therefore, there is no need of accepting the separate means for the knowledge of absence. Moreover, what is called arthāpatti by Mīmāṃsakas can be included in inference, because when one knows that Devadatta is alive and he is not in the house naturally one
inferences that he must be outside somewhere. Thus, accepting two more means of right knowledge unnecessarily leads to the logical heaviness. Therefore, there must be only four means of right knowledge.

**Western-Logic**

The logical studies started at first in western countries at the time of Aristotle. It is not the case that there were no logical studies before him. Pre-Aristotle logicians like Plato, Socrates etc. have made use of induction and propositions etc. but they could not formulate a logical theory. And this work of formulation is done by Aristotle therefore, it can be said that the formal logical studies was started by Aristotle in the west.

Aristotle was born in an educated family at 384 B.C. His father Nicomachus was a court physician of the King of Macedon who died when Aristotle was still a young boy. After the death of his father a guardian brought up Aristotle and sent him Athens. In the city of Athens Aristotle took admission in Plato's Academy, at the year of 367 B.C. He remained there till the death of Plato in 347 B.C.

After five years i.e., in 342 B.C. Aristotle became a private tutor of the son of Philip II of Macedon, who is known afterwards as 'Alexander the Great'. Aristotle taught him for three years and then returned to his birth place namely the city of Stagira. He spent there five years and again
he returned to Athens and opened a new school there namely ‘Lyceum’ in 335 B.C.

Alexander the great died in 323 B.C. Therefore, the school was in danger and thus, Aristotle himself had to take refuge in Chalics. There he died at 322 B.C. at the age of sixty-two.

Aristotle wrote many treatises on logic. The collection made by his followers is known as ‘De-Organon’ which means “The-Tool”.

‘De-Organon’ contains six different treatises namely i) Categoriae or Categories; ii) De interpretatione or Interpretation; iii) Analytica-priora or Prior Analytics; iv) Analytica postriora or posterior Analytics; v) Topica or Topics; and vi) De sophistics Elenchies or on Sophistical refutations.

Among these six treatises De interpretationae and The prior Analytics are important texts concerning logic.

Aristotle discovered a structure in logical thoughts. His authority in the field of logic remained unchallenged till the rise of symbolic logic (that is for more than two thousand years). Further though his views are refuted but the basic structure of syllogism and formation of logical system is accepted by almost every western logician.
It can be said that in the nineteenth century revival of logic again took place. Whatley is the founder of this system and the system is further developed by many other logicians.

Russell is a prominent logician who introduced mathematical logic and held that mathematic is the branch of logic.

Bertrand Russell was a British philosopher, mathematician and social-reformer. Russell born in Trelleck, Wales in 1872. His grandfather Lord John Russell was a great personality in the political field. He introduced the reform bill in 1832 and afterwards was selected as the prime minister in the time of Queen Victoria.

After the death of parents of child Russell, his grandfather Lord John Russell and after the death of grandfather, grandmother brought up the child. He acquired his primary education not in the school but from the private tutors.

After the completion of primary education he entered Cambridge University in October 1890 or for the studies in mathematics and then he joined Trinity College for four years i.e., from 1890 to 1894 to study philosophy. Then he remained there in Trinity College as a Fellow of the college from 1895 to 1901, and then as a lecturer from 1910 to 1916 in the same college.
In 1950 Russell was awarded the 'Nobel Prize' for literature.

During his life time Russell received plenty of repute. That is why one German Historian Rudolf Metz referred to Russell in writing in 1935 as 'the only British thinker of the age who enjoys world wide repute.'

Russell's works are well known in all over the world.

Russell developed the 'symbolic logic.' He wrote several books on mathematics, logic and philosophy. Among them 'Principia mathematica' or 'The Principles of Mathematics' became very popular, which deals with both the subjects i.e., mathematics as well as logic.

In Western logic only two means of true knowledge are accepted. i) Perception and ii) Inference.

i) Perception: According to western logicians "perception is the act of mind by which one becomes directly aware of something." This direct awareness or apprehension is of two types: i) Internal perception in which one can directly have the knowledge of the status of one's own mind i.e., whether he is happy or unhappy.

Second type of perception is external perception in which one has direct knowledge of external objects through the sense organs. This
concept of perception according to western tradition is closer to that of Indian tradition.

ii) Inference: It is an indirect source of knowledge. In the process of interference the knower passes to a certain conclusion from given data. For example the given data is 'All men are mortal' and 'Socrates is man'. From this data one can have the knowledge that "Therefore, Socrates is mortal."

Some western logicians accept verbal testimony as a means of right knowledge but that is not accepted by everybody.

1.2 Scope of the present work

Parāmarsa is involved in the process of inference. Inference is one of the processes of knowing the world. Anumiti or inferential cognition is the effect of the inference, which arises after the confirmatory knowledge or the knowledge of parāmarsa.

For example, suppose, a man who has seen several times in kitchen etc. that smoke is invariably connected with fire, happens to see afterwards a smoke existing on a mountain. He remembers that coexistence of smoke and fire i.e., invariable concomitance namely, 'where there is smoke, there is fire.' Immediately after this he gets the
knowledge 'the mountain is possessed of smoke which is pervaded by fire.' This cognition is called *parāmarśa*. In the example smoke is invariably related with fire and mountain is the subject and the confirmatory knowledge of existence of such smoke on the mountain is called *parāmarśa*. Immediately after the knowledge of *parāmarśa* there arises the inferential cognition.

But there is a controversy regarding the process of this inferential cognition. The *Navya Nyāya* system accepts *parāmarśa* in this process of inferential cognition, while the *Mīmāṁsā* system thinks that it is not necessary.

The present thesis discusses this controversy between the school of *Nyāya* and that of *Mīmāṁsā*. It also attempts to compare the results with the Western logic because Western logic also discusses the process of inference.

So far as methodology is concerned this work is totally based on basic texts in Sanskrit and some fundamental studies thereon.

There are two parts of the present thesis. First part is the study of the second part which contains general discussion about the form and function of *parāmarśa*. 
In the second part, the Sanskrit text i.e., \textit{parāmarśacintāmaṇi} by Gangesopādhyāya is translated into English with explanatory notes.

In the first part there are five chapters besides the introductory chapter. It is presented in the following chapters.

Chapter 2: Process of Inferential cognition

The process of \textit{anumāna} which is an important way of knowing the world, is discussed. The chapter is divided into two sub topics.

1) Process of inferential-cognition according to \textit{Navya - Nyāya} which deals with the \textit{Naiyāyikas} process of syllogism called \textit{Pañcaśayavi-vākya} or \textit{parārthānumāna}.

2) Process of inferential cognition according to \textit{Mīmāṁsā}: which deals with the \textit{Mīmāṁsā} process of syllogism having three steps only.

Chapter 3 : The factors of inferential cognition : It deals with the factors involved in the process of inferential cognition.

In this chapter all the technical terms involved in the process of inferential cognition according to all of the three traditions are explained in detail.
Chapter 4: Parāmarśa

In the chapter, after the background study the main issue of the present thesis is discussed. It is analysed how parāmarśa is necessary in the process of inferential cognition.

Chapter 5: Process of inferential cognition according to Western logic: In this chapter the process of inferential cognition according to Western logic is explained. The chapter has two sections. In the first section Aristotelian logic is explained and the second topic deals with the logical system according to Russell.

Chapter 6: Comparison of both the systems: The chapter compares and contrasts the results of our study presented in the preceding chapter.

An attempt is made to examine the views of the Naiyāyikas and the Māṁāḥsākās and finally a conclusion has been drawn.

The second part of the thesis contains the English translation of the Sanskrit text viz., Parāmarśacintāmaṇi of Gaṅgeśopādhyāya, with explanatory notes.
REFERENCE

1) Pradōpaḥ Sarvavidyāmanupūyāḥ Sarvakarmāṇām
   Åśrayoḥ Sarvadharmanām Svayamhāviṣkṛtān maṭān
   Vāsqyāmāna-Bhāṣya Nyāya-sūtra (1.1.1)

2) Nyāya-sūtra (1.1.1)

3) Nyāya-sūtra (1.1.2)

4) Pramāṇaḥ arthaparākhyānam Nyāyaḥ (1.1.1)
   Vāsqyāmāna-Bhāṣya Nyāya-sūtra (1.1.1)

5) Encyclopedia of Indian Philosophy Vol-VI
   By Karl Potter Page No.

6) Jñāna-kṣetramārkam jñānam Pratyakṣam.
   Tarkṣaṇagṛha Page No. 29

7) Aṁśa maṅgasā sūkhṣyate, Mana indriyena, indriyaaroṭhena iti
   Vāsqyāmāna-Bhāṣya Nyāya-sūtra (1.1.4)

8) Anumāṇikaranaṇaṇām

9) Pañcarāṣṭrāṇgam jñānam anumāṇitā
   Tarkṣaṇagṛha Page No. 34

ibid
10) Vyāptivīśṭasya Pañcadharmatā jñānam Parāmarśah

Nyāyasiddhānta-Muktāvalī

11) Upamitikaraṇamupamāṇam.

Tarkasaṅgraha Page No.

12) Saṃjñā - saṃjñā - sambandha - jñānamupamāṇaḥ

Ibid.

13) Āptavākyam Śabdah

Ibid.

14) Tatra indiryasannikarṣajam Pramāṇam pratyakṣam.

Mānameyodaya Page No.8.

15) Sāksātpratitiḥ pratyakṣam.

Prakaraṇa pañcikā

Page No.146

16) Anumānam jñātasambandhasaikadeśadarśanādekkadeśāntare asannikṛṣte arthe buddhiḥ.

Śābara-bhāṣya.

(M.S. 1.1.5)

17) Tatra tāvatpadaiḥ jñātaiḥ padārthasmarāne kṛte, asannikṛṣtvākyārthajñānam śabdāmitāryate.

Mānameyodaya

Page No.92
18) Drṣyamānārthasāḍrṣyāt
Smaryamānārthagocaram,
asannikṛṣtasaḍrṣyajñānam hyupamitirmatā.

Ibid
Page No. 108

19) Anyathānupapattyā yadupapādanakalpanam, tadarthāpatti rityevam
laksanam Bhāṣyabhāsitam.

Ibid
Page No. 118

20) Athopalambhayogyatve Satyapyanupalambhatvam abhāvākhyam
Pramāṇam syādabhāvasyāvabodhakam.

Ibid.
Page No. 132.
CHAPTER - 2

PROCESS OF

INFERENTIAL COGNITION
2.0 Inference

In the analysis of the Nyāya vaishēṣika system the world is the object of knowledge. Without the knowledge one can not know the existence of the world and hence one can not behave with it. Knowledge is the cause of human behaviour. According to the system the knowledge or buddhi is of the two types:

(i) *Smṛti* (remembrance), and (ii) *anubhava* (experience).

Remembrance arises from the prior impressions left behind by a knowledge and experience is that which arises for the first time and which is not caused by any previous impressions. Experience is divided into two kinds; (i) *Yathārtha anubhava*, true experience; (ii) *Ayathārtha anubhava* - false experience. A true experience is that which presents 'x' as 'x' and a false experience is that which presents 'x' as 'y'. True experience is further divided into four types viz., (i) *Pratyakṣa*-perceptual cognition; (ii) *Anumiti*-inferential cognition; (iii) *Upamiti*-analogical cognition; and (iv) *Śabda*-verbal understanding. These are four ways of knowing the world.
Perception is the instrument of perceptual cognition which arises through the contact of sense-organs and their objects. It is an independent source of knowledge and it is the basis of all types of knowledge.

Inference is another important source of knowledge. It is an instrument of inferential cognition. Perception and inference are equally valid sources of knowledge. Like perception, inference is not an independent source of knowledge but it is dependent on perception. Anumāna literally means the knowledge which follows from some other knowledge. Gautama defines anumāna or inference as the knowledge which is preceded by perception. While interpreting the definition Vātsyayana explains "The word tatpūrvaka refers to the perception of the relation between the mark and marked (i.e., the thing to be inferred). It also refers to the (second) perception of the mark (on the subject) itself. Thus, inference depends upon previous perception for the knowledge of the relation between probans (hetu) and probandum (sadhyā). This knowledge is called vyāpti-jñāna or knowledge of invariable concomitance. This knowledge leads to an inferential cognition. Thus, an inference is the knowledge which follows from some other knowledge i.e., perception. Perception arises from the direct contact of sense organs and their objects. Therefore, it causes the knowledge of such objects which exist in present time and which are in the range of the sense organs,
while inference causes the knowledge of such objects which does not only existing in present time but which existed in the past and which will exist in future also. Thus, inference causes knowledge of that which is beyond the reach of a sense organ. Further, the knowledge of such objects which are never perceptible such as God, soul etc. is also possible through inference only. Where perception fails, inference can work. Thus, inference has a wider range of applicability and hence it is an important source of knowledge.

2.1 Process of inference according to Navya - Nyāya:

Inference is defined by Navya- Nyāya as “an instrument of inferential cognition." Inferential cognition is the knowledge which arises from the parāmarśa. Let us consider an example which will explain the process. A man who has noticed in the kitchen etc. that smoke is concomitant with fire, happens to see afterwards smoke on a mountain, connected with the mountain. Then he remembers the invariable concomitance between smoke and fire i.e., 'where there is smoke there is fire'. Then he gets the knowledge that the mountain is possessed of smoke which is pervaded by fire. This is what is called parāmarśa. After this knowledge of parāmarśa there arises the inferential cognition 'the mountain possesses fire'.
This process of inference is of two types: (i) *Svārtha-anumāna* or inference for oneself and (ii) *Parārtha-anumāna* or inference for others.\(^{11}\) Inference for oneself is a mental process without involving utterances or sentences.

Inference for the others is for the sake of the knowledge of others. When one who has inferential cognition, tries to convince others through sentences it is called the process of inference for others. It involves five sentences called *avayavas* or parts.\(^ {13}\) They are (i) *pratijñā* or assertion which is defined as announcement of *sādhya* or probandum existing on the *pakṣa* or subject\(^ {14}\) such as 'The mountain has fire', (ii) *Hetu* or reason which speaks about the mark that proves the existence of probandum on the subject and it is put in ablative case such as 'Because it has smoke'. (iii) *Udāharaṇa* or example means the sentence which demonstrates the invariable concomitance between the *hetu* and the *sādhya* such as 'where there is smoke there is fire as in the kitchen etc.'. (iv) *Upānaya* (which is called *parāmarśa*) is the sentence for the knowledge of the relation of the pervaded with the subject (v) *Nigamana* or conclusion corroborates the *pratijñā*, such as 'Therefore, the mountain has fire'.
The purpose of assertion 'The mountain has fire' is to make a statement of sadhya and its existence in the subject. After hearing the assertion naturally a doubt arises regarding the existence of sadhya in the subject. He wants to know the ground. The next sentence satisfies this ground. This sentence provides the ground such as 'Because there is smoke on the mountain'. The hearer doubts the relationship between the hetu and the sadhya. Then the sentence of example (i.e., Udāharaṇavākya) says that the mark will prove the existence of probandum because the mark and probandum are seen invariably related.
with each other in the similar instances i.e., 'where there is smoke there is fire, as in the kitchen' etc. The fourth sentence namely 'paramārśa' then generates the confirmatory knowledge about the ground or mark or hetu is qualified by the invariable concomitance and subject, exists on the subject. e.g. 'The smoke which is pervaded by fire, exists on the mountain'. According to the definition of nigamana or conclusion converts all together all these sentences in one sentence (mahāvākya) e.g., 'Therefore, the mountain possesses fire'.

Thus, the process of inference for the others according to Navya-Nyāya system involves these five steps mentioned above.

Kinds of inference:

While defining inference Gautama gives three kinds of inference namely Purvavat, Śeṣavat and Sāmānyatodṛṣṭa

(i) Purvavat inference is that in which effect is inferred from the cause e.g., when one sees that there are dark clouds in sky he can infer that there will be rainfall.

(ii) In Śeṣavat inference the process of inferring is exactly opposite. In this kind of inference, cause is inferred from the effect. It is illustrated as 'from the flood of river, inference of previous rainfall arises.
(iii) **Sāmānyatodṛśta:** In the former instances there is cause and effect relationship between probans and probandum but it is not the case in this kind of inference. In this case one can have the knowledge of invariable concomitance not directly but through the relation which is based on our experience e.g., the sun moves, because the sun changes his place like other movable objects. Here, in this example there is no direct experience of movement of the sun. But because it is seen at one point of time at one point of place and then at another point of time at another point of place as comparison can be made with the moment of Devadatta which is visible and thus generalisation can be made about the causal relationship. We observe that objects having limited size have motions and through motion they change their place, similarly we observe that the sun has changed his place and from that we infer that the sun moves.

In *Nyāyavārttika* these three kinds of inference are classified as (i) *Kevalānvayi anumāna*, (ii) *Kevalavyatireki anumāna*, and (iii) *anvaya-vyatireki anumāna*, which are based on three kinds of invariable concomitance respectively.

(i) **Kevalānvayi anumāna:**

The inference in which only positive concomitance can be shown is called 'Kevalānvayi inference'. Here only *anvaya-vyāpti* is demonstrated.
In this kind of invariable concomitance probans and probandum are related to each other only positively, because no negative instance is possible in such cases. For example, everything is knowable, because everything is namable. In this instance negative example is not available because each and everything in this world is namable and knowable. Hence, the relation of invariable concomitance can be shown only positively i.e., 'where there is knowability there is namability' or vice versa. It can not be said that whatever is not knowable, is not namable because nothing is left out. Such ground which can demonstrate only positive concomitance is called kevalānyayi-hetu hence the inference is called a kevalānyayi-inference.

(ii) Kevalvyatireki anumāna:

In this kind inference is based on only negative concomitance. Here the vyāpti is demonstrated only in a negative form i.e., between the absence of probans and the absence of probandum. Since, no positive concomitance can be demonstrated the relation of invariable concomitance can be obtained only through the knowledge of relation of absence of probans and absence of probandum. For example, 'earth is different from the elements because it possesses smell, one can not find out the positive instance to demonstrate the invariable concomitance i.e., where there is smellness, there is difference from others. Because the
Smellness is the quality of earth only and not of any other element. On the other hand plenty of such examples can be shown, where the absence of smellness resides. Thus, the relation of invariable concomitance is available only in the form of 'where there is absence of smellness there is absence of difference of other (elements), here since the mark satisfies only negative invariable concomitance, it is called Kevalavyatireki-hetu and because the inference works on such mark it is called Kevalavyatireki inference.

(iii) Anvaya-vyatireki anumāna:

An inference is called anvaya-vyatireki inference, when it contains anvaya-vyatireki mark. The mark which possesses both i.e., negative and positive invariable concomitance is called anvaya-vyatireki i.e., positive-negative mark. When probans and probandum are related with each other in both ways i.e., positively and negatively the invariable relation between them is called anvayavyatirekavyāpti. It means that there is invariable concomitance between probans and probandum and also between their absences. For example, there is invariable concomitance between smoke and fire, in the instance the mountain possesses fire because it possesses smoke. And also there is invariable concomitance between the absence of them. The form of the positive invariable concomitance is 'where there is smoke there is fire', in which the smoke i.e., probans is pervaded and the
fire i.e., probandum is the pervader. The form of the negative invariable concomitance will be, 'where there is absence of fire, there is absence of smoke, where the absence of fire is pervaded and the absence of smoke is pervader. So, in the example the mark demonstrates invariable concomitance in both ways, i.e., positively and negatively, hence it becomes anvayavyatireki mark and the inference which is based on this mark is named as anvayavyatireki anumāna.

These are the kinds of inference described by the Naiyāyikas.

2.2 Process of Inference according to Mīmāṃsā:

Mīmāṃsakas define inference as "the knowledge by a person who already knows the relationship (between hetu and sādhyā) of the sādhyā which is beyond the range of sense organ and which is another part, on the basis of the knowledge of its one part is called inference." For instance, when a person who knows the relation between smoke i.e., probans and fire (probandum) through the observation of both the factors in the kitchen etc., perceives the smoke i.e., one relation of the known relationship connected with the mountain he remembers the relation of invariable concomitance i.e., where there is smoke there is fire and then immediately
he has the knowledge of fire which is not in contact with his eyes (asannikṛṣṭa). This knowledge of fire is called inference of fire.

The definition contains two technical terms namely jñātasambandha and asannikṛṣṭa which are explained in different ways by the Bhāttas (especially by Kumārila) and the Prabhāskaras.

The word jñātasambandha is explained by Kumārila in four ways.  
(1) Jñātasambandha means the person who knows the relationship between probans i.e., smoke and probandum i.e., fire. Such a person (jñātaḥ sambandhaḥ yena saḥ) when afterwards sees the smoke on the mountain, he gets the remembrance of the invariable concomitance and then immediately there arises the knowledge of fire. This knowledge of fire is called inferential cognition. This explanation is as per tṛtiyārthe bahuvrihiḥ. The compound can also be desolved as yena pramātrā sambandho jñātaḥ (tasya buddhiḥ). This explanation is as per saṣṭhyarthe bahuvrihiḥ.

(2) The second interpretation relates to ekadesin. According to this explanation jñātasambandhasya stands for sapakṣasya (cf. yasya jñātasambandhasya mahanasākhyo sapksaḥ jñātaḥ tasya yo dhūṃākhyāḥ ekdesaḥ tasya parvatādau darśanāt tatraiva ekdesāntare agni-buddhiḥ iti -- 'Nyāyaratnākara'. P.291).
(3) In this interpretation (jñātaḥ ca asau sambandhaḥ ca), ekadeśin means the relation of vyāpti and ekadeśa means dhūma (cf. Nyāyaratnakāra P.291).36

(4) Here jñātasambandhah is interpreted as yat līṅga-līṅgi-dvayam tatsamudāya eva jñātasambandhah. (cf. Nyāyaratnakāra p.291). Here ekadeśa stands for samudāya and the relation means samudāya.37

Through all these interpretations what is aimed at is to clarify the nature of vyāpti or relation between the hetu and the sādhya so that the process of inference is properly explained.

According to the Prabhākaras the word jñātasambandha means the object or ekadeśa or one relatum whose relationship is known with the another object or relatum.38 So the Inference means the knowledge which arises of that which is not in contact with sense organs, after the perception of one relatum. Smoke is such object whose relationship is known with fire takes place on the mountain the knowledge of fire arises which is not in contact with the sense organs.
The word *asannikṛṣṭa* literally means that which is not in contact (with the sense organs). According to the *Bhāṣās* the word means non-determined.\(^{39}\) Kumārila gives two meanings of the word: (1) The determination of the inferable object in that form; (2) The determination of that object in the contrary form.\(^{40}\) It is explained by M.M. Ganganatha Jha "The *Bhāṣya* speaks of *Asannikṛṣṭe buddhiḥ* and by this is meant the fact that any object, which, in a definite form, is known beforehand by some easier means (sense-perception) in that 'very form' it can not be the object of more complicated means of knowledge (i.e., inference); and also that if an object, in a definite form, is cognised previously by a stronger means of cognition (sense-perception) then the same object, in a form contrary to this, can never be the object of a weaker means (inference). Because that which has already been ascertained some way or the other does not stand in need of any other means of right knowledge."\(^{40}\)

According to *Prābhākaras* the word *asannikṛṣṭa* indicates that inference should be different from remembrance\(^{41}\) However, Śālikanāha, the follower of the same school explains the word expressing the object should not be contradicted by any other stronger means of true knowledge.\(^{42}\)
The Prābhākaras interpretation of jñātasambandha and asannikrṣṭa seem to be simpler than that of the Bhāṭtas. Not only it is simpler, but more convincing.

Like Navya- Nyāya system, Mīmāṃsā also accepts two kinds of inference.43

(1) Svārthānumāna - inference for one self; and (2) Parārthānumāna - inference for others. The first kind of inference is similar to that of Nyāya Vaiśeṣika system. Here too it is a mental process where a person who has the knowledge of invariable concomitance, infers himself.

But there is difference of opinion in two systems about the form of inference for others i.e., parārthānumāna. It is stated before that the Nyāya system holds that for inference five sentences are necessary. However, Mīmāṃsakas accept only three sentences for the process.44 They present these three sentences in two ways either the inference starts from pratijñā sentence and ends at the udāharaṇa sentence. For example (1) The mountain possesses fire (Pratijñā). (2) Because of smoke (hetu) (3) where there is smoke there is fire as in the kitchen (udāharaṇa), which mentions the invariable
Another way is, it starts from the udāharaṇa sentence and ends at nigamana sentence. The same instance will start from udāharaṇa - sentence (1) where there is smoke there is fire as in the kitchen etc, (2) then upanaya sentence i.e., here on the mountain there is smoke which is pervaded by fire, (3) Therefore, the mountain possesses fire.⁴⁵

FORMS OF INference

A

<table>
<thead>
<tr>
<th>MOUNTAIN POSSESSES FIRE</th>
<th>ASSERTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>BECAUSE OF SMOKE</td>
<td>REASON</td>
</tr>
<tr>
<td>WHERE THERE IS SMOKE THERE IS FIRE</td>
<td>EXAMPLE</td>
</tr>
</tbody>
</table>

B

<table>
<thead>
<tr>
<th>WHERE THERE IS SMOKE THERE IS FIRE</th>
<th>EXAMPLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOUNTAIN POSSESSES SMOKE</td>
<td>REASON</td>
</tr>
<tr>
<td>THEREFORE MOUNTAIN POSSESSES FIRE</td>
<td>CONCLUSION</td>
</tr>
</tbody>
</table>
According to them five sentences are not necessary for the process. Because purpose of the fourth sentence (upanaya or parāmarśa) is served by reason and that of the fifth sentence namely nigamana or conclusion is served by pratijñā or assertion. So it is needless to accept five parts of inference, which leads to the fault of repetition. Thus, there are only three parts of inference according to Mīmāṁsā.46

Kinds of inference:

Śābara divides inference in two types: (1) Pratyakṣatodṛṣṭam - the inference which is based upon directly perceived relationship. For example, when one infers fire from smoke then it is the inference which is based upon directly perceived relationship.47 Because before the seeing of the smoke, one has directly perceived in the kitchen etc. that smoke and fire are invariably related with each other. From this perception whenever he sees the smoke on the mountain he remembers that invariable relationship between them and then he has the knowledge that there is fire on the mountain. The relation between smoke and fire is directly perceived, therefore, the inference is called pratyakṣatodṛṣṭam.
(2) *Sāmānyatodṛṣṭam* - The inference which is based upon generalised relationship is called *sāmānyatodṛṣṭam*. For example one can infer that there is motion in the sun because he changes his place like other movable objects as Devdatta etc. Here in the example the experience that 'whenever an object changes its place it has motion' leads to infer about the motion of the sun from his changed place. Because the motion of the sun cannot be directly perceived. Only from his change of place one has to infer that the sun moves. Therefore, the inference is called as based upon generalised relation of *sāmānyatodṛṣṭam*.

However, Kumārila opposes the view of Śabara. According to him there is no difference between the examples of *sāmānyatodṛṣṭam* and *pratyakṣatodṛṣṭam*. As one can directly perceive the relation between smoke and fire, similarly he can perceive directly the relation between the motion of Devdatta and his changing of place. As the motion of the sun is not directly seen, similarly the mountain fire also is not directly seen, but it is proved on the basis of perception of smoke.

Moreover, both the illustrations can be applied in *sāmānyatodṛṣṭam*. One has never seen the motion of the sun but
observed the change of his place. But on the basis of motion of another objects like Devdatta etc. he has generalised that 'where there is motion there is change of place.' On the basis of this generalised rule i.e., invariable concomitance, he has the knowledge of the motion of the sun from his changing place. Similarly, one has observed so many cases of smoke where smoke is invariably related with fire. Then the observer can generalise that 'where there is smoke there is fire.' And then he gets the inferential cognition of fire. Hence, there is no difference between these two examples says Kumārila.

Instead of sāmānyatodṛṣṭa and pratyakṣatodṛṣṭa Kumārila mentions (1) Viṣeṣyatodṛṣṭa inference; and (2) Sāmānyatodṛṣṭa inference. He states that particular or viṣeṣa is the opposite of sāmānya and not perception. Therefore, the division of the kinds of inference given by himself is correct and it is not so of Śabara.

(1) An inference is called viṣeṣyatodṛṣṭa or seen by particulars wherein there is knowledge of relation between particulars acquired through the perception. For instance, one has observed so many particular smokes produced by particular fires which are produced by fuel like cowdung etc. on so many places. Then, again when he
perceives the particular smoke connected with particular place like mountain then he remembers the relation between the two particulars and then he has the knowledge of that particular fire which exists on the mountain and which is not in contact with eyes. Since, the inferential cognition is acquired from the relation of particulars, it is called the inference based upon the relation of particulars or *viśeṣyatodrṣṭa*.

One more example of *viśeṣyatodrṣṭa* inference is given as follows: from the rise of the *Kṛttikā*, the rise of *Rohini* is inferred. These two are particular things and not general. Therefore the inference is called *viśeṣyatodrṣṭa*.

(2) *Sāmānyatodrṣṭa* -When there is knowledge of the relation by perception between general objects, then the inference is called *Sāmānyatodrṣṭa*.

It is illustrated as an invariable relation between the class of fire and the class of smoke. In this type of inference not any particular object is inferred but the class of objects is inferred.

*Prābhākaras* interpret the kinds of inference given by *Śabara* as (1) *drṣṭa* svalaṅkaṇa and (2) *adrṣṭa* svalaṅkaṇa.
They state that these types of inference are based on the objects of inference. It is to say that there are two objects of inference namely. (1) The objects whose *svalakṣaṇa* (self-character or self-property) is perceptible. It implies that inference of fire from the smoke is called *dṛṣṭasvalakṣaṇa* because the self-character or property of fire i.e., fireness is perceptible and therefore, the inference is named as above.

(2) In the second type of the inference i.e., in *adṛṣṭasvalakṣaṇa* the objects whose *svalakṣaṇa* self-character or property) is not perceptible. e.g., action or power etc. According to them action is not visible. What one sees as action, is not action but it is merely contact and separation e.g., when a bird flies from a particular place there is separation of the bird from that particular place. When again it sits on some other place then there is a contact of the bird with that particular place. It means the self-character of action i.e., actionness is not visible. Therefore, the inference is called *adṛṣṭa-svalakṣaṇa*. They also state that *śakti* or power is also the object (of inference) whose self-character is not perceptible. The power is inferred from the effect. For instance, fire is able to burn but when it is obstructed by *mantras* or gems, it can not burn. From this effect it can be inferred that there is some power in fire, because of which
it can burn, and because of obstructor it gets restricted. But nobody can perceive the power. Hence, the self-character of the power is not perceptible. The inference which deals with objects is called *adrśta-svalakṣaṇa*.

Like the *Navya-Nyāya* system, some of the *Mimāṁsakas* have accepted the three kinds of inference viz., (1) *Kevalānvayi* inference; (2) *Kevalāvyatireki* inference and (3) *Anvaya vyatireki* inference.

Prābhākars do not mention these three kinds of inference. In *Bhāṭṭa* school also Kumārila does not mention these three kinds of inference. But in the text *Mānameyodaya* there is mention of these three types of inference. The concept of these three kinds of inference according to *Mimāṁsakas* is similar to the concept of *Naiyāyikas* about the same.

(1) *Kevalānvayi anumāna*:

The inference which possesses the *anvaya - vyāpti* or positive invariable concomitance is called *kevalānvayi* or only positive inference. e.g., knowledge is illumined by another knowledge, because it is an object like pot etc. In this instance, the absence of object which is caused by enlightenment of knowledge can not be
shown, because all the objects can be enlightened by knowledge. Therefore, to show any negative instance is impossible. In this case only positive instance is available and hence, the inference is called kevalānvayi or an inference which involves positive concomitance.

(2) Kevalavyatireki inference:

The inference obtained through vyatireka - vyāpti or only negative invariable concomitance is called Kevala-vyatireki or only negative inference. For example - knowledge is self-illuminated because of knowledgeness. Where there is no self-illuminatedness there is absence knowledgeness also as in the case of pot. In this case it is not possible to show that whatever has self-illuminatedness has knowledgeness also. It means that in this case only negative invariable concomitance is possible and not positive invariable concomitance. Therefore, the inference is called kevalavyatireki or only negative inference.

(3) Anvaya-vyatireki-anumāna is the inference which has both the types of invariable - concomitance i.e. the inference which contains both positive, and negative invariable concomitance. The instance that the mountain possesses fire because of smoke is the instance of positive - negative inference. Because there is invariable relation
between the probans i.e. smoke and probandum i.e. fire and there is invariable - concomitance between their absences also. It can be stated here that in the instance the positive invariable - concomitance is 'where there is smoke there is fire' and 'where there is absence of fire there is absence of smoke'. Therefore, the instance is called instance of anvaya - vyatireki - anumāna.

However, according to the Bhūtas only negative inference is not a kind of inference but it is a separate means of true knowledge which is known as anupalabdhi. They hold that through inference one can acquire the knowledge of such object which is known somewhere else. But the property i.e. svaprakāśatva - self illuminatedness is not known anywhere. Therefore, if somebody wants to prove it he cannot do so because the property has a substratum, which has no known-qualification. Hence, it becomes defective subject. So the only negative inference should be discarded. Further, they argue that, whatever logicians say that if there is favourable tarka then there is no fault though there is qualification which is unproved, is not correct. Because the tarka is unable to prove the object which is not known absolutely, so, the fault of 'non-proved-qualification should be avoided.
However, on this argument there is one objection. Suppose, if it is proved that substratum of the property of self illumination is known generally through the inference that 'There is absolute absence of knowledgeness somewhere else, because it is a property. As there is absolute absence of potness in cloth etc., the fault that of non-proved-qualification of subject will be removed, as it is proved by the inference known through the generality. Therefore, some scholars have not accepted the only negative inference directly or they didn't avoid it directly. So it can be stated here that where the negative inference is not proved generally, it should be avoided. Thus, it can be said that Bhāttas are not in favour of accepting the only negative - inference so they have only one kind of inference i.e. only positive.

Thus, though there is no much difference of opinion between the two systems namely *Navya- Nyāya* and *Mimāṃsā* about the nature of the inferencial-cognition, they differ only in the structure of inference. The structures of inference given by both the systems involve so many technical terms, which will be explained in the next chapter.
But one thing is clean that the *Mīmāṁsaka* have been very much influenced by the *Naiyāyikas* as it is evident from the *Mānameyodaya.*
REFERENCE

1. Sarvavya vahārahetubuddhirjñānam.
   Tarka-saṁgraha Page No.21

2. Sā dvividhā smṛtiranubhavaṣca.
   Ibid.

3. Saṁskāramātrajanyam jñānam smṛtih Tadbhinnam anubhavaḥ
   Ibid. Page No.22

4 & 5 Sa dvividho yathārthaḥ ayatharthasha. Tadvati .... .... yathā
   suktāvidam rajatamiti jñānam
   Ibid. Page No.23.

6. Yathāṛtha anubhavaṣcaturvidhaḥ pratyakṣānumityupamiti
   śābdabhedāt. Tatkarāṇamāpi caturvidham
   pratyakṣānumānopamānasābdabhedāt.
   Ibid. Page No.24.

7. Pratyakṣajñānakaranaṃ pratyakṣam.
   Indriyārthasannikarṣajanyam jñānam pratyakṣam.
   Ibid. Page No.29.
8. *Atha tatpūrvakamanumānam ......dṛṣṭam. Nyāyadarśanam,*

Page No.132

9. *Tatpūrvakmityanena lingaliṅginoḥ sambandha - darśanam liṅga
darśanam cābhisambaddhyate.*

Ibid - Page No.142.

10. *Anumitikaranaṇamanumānam. Tarkasaṅgraha,*

Page No. 34.

11. *Parāmarśa janyaṃ jñānamanumitiḥ.*

Ibid.

12. Ibid - page No.36

13 Ibid.


15,16,17 Ibid. Page No.38,39.

18. *Vyāpyasya paksyṛttitvadhiḥ parāmarśa ityucyate,*

*Nyāyasiddhānta - Muktāvalī with Kiraṇāvalī commentary,*

Page No.220
19. *Nigamyante aneneti pratijñā hetudāharaṇopanaya ekatreti Nigamanam.*

*Nyāyadārśanam.* Page No.315.

20. Ibid. Page No.132.

21,22,23. Ibid.

24. Ibid. Page No.144.

25,26,27,28,29,30,31. *Tarkasaṅgraha* Page No.40

32. *Anumānam jñātasambandhasya ekadeśadarsanāde keśadāśānti are asannikkṛṣṭēthe Buddhīḥ. Śābara-Bhāṣya* (1.1.5)


34,35,36,37 Ibid. *Nyāyaratnakara (Com. on Ślokavārtika)*


41. *Brhati of Prabhākara Miśra-Tarkapāda.* Page No.103
42. Prakaraṇapañcikā. Page No.42.

43. Mānameyodaya - Page No.63.

44,45,46, Ibid. Page No.64.

47 Śābarabhāṣya - (1.1.5)

48,49 Ślokavārtika Anu. - 138,139,140.

50. Ibid. 141 to 145

51,52 Ibid. Nyāyaratnakāra (com. on Ślokavārtika) Page No.333.


54. Ibid.

55. Ibid. Page No.218

56,57,58,59,60,61. Mānameyodaya Page No.53 to 57.
CHAPTER-3

THE FACTORS OF
INFERENTIAL COGNITION
3.0. It is stated in the earlier chapter that svārthānumāna and parārthānumāna are the two types of inference. Though inference for oneself is a mental process and inference for others is a verbal process, both the types have certain logical form which is technically called as Nyāya. Various logical systems have different views about the number of the factors or parts of Nyāya but they are of the same opinion on this point that the process of inference must have a logical form.

The Nayya- Nyāya system hold that there are five parts of the Nyāya whereas the Māṁsā system opines that Nyāya consist only of three parts. Western logicians also accept three parts of Nyāya i.e. the logical form of inference which they call syllogism.

The definition of Nyāya given by Navya- Nyāya system is "anumiticaramakāraṇatāgaparāmarśaprayojakaśabdajanaka vākyam." A sentence which produces verbal-cognition which causes the parāmrśa which is the last factor of inferential-cognition.
According to this system, the Nyāya has five parts-namely 1. Pratijñā - or assertion; 2. Hetu or reason; 3. Udāharaṇa - example which contains the sentence of invariable concomitance; 4. Upanaya or parāmaśā; 5. Nigamana or conclusion.¹

According to Mīmāṃsā system there are only three parts of Nyāya namely - 1. Pratijñā - assertion; 2. Hetu - reason; 3. udāharaṇa - example.²

Syllogism is defined in the West as follows "A categorical syllogism is a form of reasoning consisting of three propositions having between them three and only three terms, which are so related that the first two propositions jointly imply the third."² For example,

1. All men are mortal
2. Socrates is man
3. Therefore, Socrates is mortal.

In this syllogism there are three propositions of which first two are called premisses and third one is conclusion. The syllogism has three propositions as well as three terms, which are technically called 1. Major term; 2. Middle-term, and 3. Minor term.
The first two propositions namely 'All men are mortal' and 'Socrates is man' jointly imply the third proposition namely 'Socrates is mortal'. The first two propositions, (which are called 'starting point' of the process of inference), are called premisses and the third one which follows from the other premisses is called conclusion. The quality of premisses depends upon the terms which they hold. The point will be explained later.

3.1 Pakṣa, Sapakṣa, Vipakṣa:

Pakṣa is defined by the Naiyāyikas as follows - 'pakṣa means a substratum on which there is doubtful existence of probandum', or in other words a locus where probandum is to be established. In the example 'the mountain possesses fire' 'the mountain' is pakṣa or subject on which fire i.e. probandum is to be established. Subject is locus of both porbans and probandum.

When one sees probans existing on the particular place, and if he has the desire of inferring the probandum, on the same particular place, then he has remembrance of the general relation of invariable concomitance. Then he applies the rule to that particular instance which is the locus of both (proban and probandum) then there arises the inferential - cognition: As soon as there on a particular place
arises the desire of inferring something from another thing which exists on that particular place and also which is invariably related to the former thing, the particular place becomes pakṣa or subject. Thus, each and every mountain though possessed of smoke does not become subject, but the mountain on which on desires to infer the probandum i.e. fire from the smoke, is considered as subject.

But the definition mentioned above is not able to give complete idea of subject. Because sometimes there is no doubt about the existence of probandum on a particular place or there is no desire of inferring. Still there arises inferential-cognition. For example, when one hears the sound of thunder and infers that there are clouds in the sky. Such cases cannot be included by the definition ‘Sandigdha- sādhyavān-pakṣah’. Therefore, logicians define pakṣa as ‘where exists the absence of knowledge (of sādhyā) qualified by the absence of the desire to infer’ is called as pakṣa. What is important here is ‘the desire of infering’. Therefore, there are such cases where even if probandum is already known still there can be inference. Thus, if one desires to infer the probandum on the subject he can definitely do so. This is the reason to add the clause ‘sisādhasvānirahavistā’ in the definition.
Moreover, where there is no knowledge of sadhya but if there is desire of inferring then there will be pakṣatā in the subject. Also if there is desire of inferring irrespective of the fact whether there is knowledge or not, there will be pakṣatā. However, if there is knowledge of sadhya and if there is no desire of inferring there will be no pakṣatā there.

Thus, the definition given by Viśvanātha includes all the instances.

Mimamsakas, concept of pakṣa is similar to that of the Naiyāyikas. They define pakṣa as 'that which is qualified by the property which is to be known.' So, in the example mountain is qualified by the property namely fire which is to be known on it (on the mountain).

Sapakṣa is the locus on which existence of probandum is definitely known is called sapakṣa or similar instance. In the inference 'Mountain possesses fire' kitchen etc. are sapakṣas. From the observation of the relation between probans and probandum in the sapakṣa one can have the knowledge of invariable concomitance. Afterwards when the same person observes the probans on particular place, he remembers the relation already observed in the kitchen etc.
(sapakṣa) 'where there is probans (smoke) there is probandum (fire)'. This is followed by inferential cognition that subject (mountain) possesses probandum (smoke). Thus, in acquiring the knowledge of invariable relation between probans and probandum namely—invariable concomitance sapakṣa plays an important role.

Vipakṣa is contrary instance where the absence of probandum definitely exists. In the above said example lake etc. are vipakṣas where the absence of fire definitely known.

Through the sentence of pratijñā or assertion one gets the verbal knowledge of existence of probandum on the subject. Gautama defines pratijñā as 'indication of the object which is to be proved (i.e. probandum). In Bhāṣya it is defined as comprehension of the object which is qualified by the property which is to be established." But from these definitions one can not get the exact idea of probandum. Here it mentions 'indication of probandum' but locus is not mentioned. Indication of probandum must have some locus. Therefore, to make definition faultless New-logicians define pratijñā or assertion as follows: " Pratijñā or assertion is the sentence which implies, the subject, as possessed of probandum. Thus, 'the mountain possesses fire' is a pratijñā sentence or
assertion in which there is implication of subject namely mountain
which possesses probandum i.e., fire. Both the schools of Mīmāṃsā
namely Prabhakara school and Bhatta school hold the same view as
Navya Nyāya view, regarding the nature of assertion.¹³

3.2. Hetu

Hetu means reason or mark on the basis of which the whole
inference is based. It is an important term in the process of
inferential cognition. On the basis of reason the inferable object can
be inferred. If somebody, does not know what hetu is, he cannot
infer. Therefore, the logical systems have to insist on hetu or reason.
For valid inference one requires sadhetu or good - reason, otherwise
it will lead to invalid conclusion. To determine whether a hetu is true
or fallacious, there are five conditions proposed by Naiyāyikas as well
as the Mīmāṃsakas. Both the systems are of the same opinion on this
point.

Naiyāyikas define hetu or reason as "pañcamyantam
liṅgapratipādakam vacanam hetu"¹⁴ The sentence which states the
mark and which ends in an ablative case-ending is called hetu. In the
instance 'parvataḥ vahnimān dhūmāt'. The word 'dhūmāt' is hetu, which ends in an ablative case-ending.

It is mentioned before that the validity of whole inference depends upon the hetu or reason. Hence, to know a sadhetu or a good reason both the systems namely Navya- Nyāya and Mīmāṃsā have proposed five conditions. They are as follows:

1. Pakṣasattvam:- The reason must be present on the subject as in the instance - 'parvato vahnimān dhūmāt' smoke exists on the mountain. If reason is not seen as existing on the mountain i.e. subject it is impossible to infer. Therefore, the existence of reason (mark) on the subject is necessary.

2. Sapakṣasattvam:- The reason must also exist in all the similar instances as smoke exists in the kitchen etc. Because from the existence of reason on the similar instances one can have the knowledge of invariable - relation (which is called vyāpti) between probans and probandum. This knowledge of relation is the cause of inferential-cognition.

3. Vipakṣa-asattvam - The sad-hetu or good reason must not exist in all the contradictory instances, as smoke is absent in lake.
4. *Abādhitatva* - The object of the reason i.e., *Sādhya* or probandum must be uncontradicted by any other strong proof. In the above example, existence of fire on mountain is not contradicted by any other strong proof, but in the example 'fire is cold, because it is substance' the 'coldness of fire' is contradicted by perception which is stronger means of correct knowledge than inference and thus, the reason becomes fallacious. Hence, it cannot lead to the inferential-cognition. Therefore, the property namely *abādhita viṣayatva* must reside in reason.

5. *Asatpratipakṣatva* - This condition of good reason says that the absence of probandum which is related to the reason should not be contradicted by another equally strong reason. For instance - 'sound is eternal, because it has property of *śrāvanatva* can be balanced by 'sound is non-eternal because it is an effect like pots, etc. In the first example the reason namely *śrāvanatva* does not prove eternity, because the second example proves non-eternity of sound. The reason of the second example is equally strong to prove the opposite. Both the reasons are of equally strength, hence, the dilemma - whether sound is eternal or non-eternal. The subsequent reason proves thus, the reason is that the former one is not strong. Therefore the true reason should not possess, *sat-pratipakṣatva*. In the
example 'mountain possesses fire, because it possesses smoke' smoke is reason and fire is probandum and the absence of probandum i.e. of fire cannot be proved by any other equally strong reason. Therefore, smoke is a good reason or sadhetu.

This hetu or reason is of three kinds 16:

i) Anvaya - Vyatireki-līṅga or positive-negative mark: The reason which possesses both the types of invariable - concomitance i.e. positive invariable-concomitance and negative invariable-concomitance is called anavya - vyatireki-hetu or positive-negative-mark. Positive invariable - concomitance means the invariable - concomitance between probans (reason) and probandum, and negative invariable - concomitance means invariable concomitance between the absence of probandum and the absence of probans. In the instance 'mountain possesses fire, because of smoke' the reason namely 'smoke' has anvaya and vyatireka vyāpti. That is, there is invariable-concomitance between reason i.e. smoke and probandum i.e. fire (where there is smoke there is fire), and also there is invariable - concomitance between the absence of probandum and the absence of probans (where there is absence of fire there is absence of smoke). Since, the reason or probans i.e. smoke possesses
both the types of invariable concomitance, it is called as positive-negative-mark.

ii) Kevalānvayi-linga or only positive mark:

The mark or reason which possesses only positive invariable-relation between reason or probans and probandum it is called kevalānvayi linga. It can be illustrated as "the pot is namable because it is knowable, like cloth etc." Here, the reason i.e. knowability and probandum 'namability' are co-extensive. They pervade each other. It means one can show only positive invariable-concomitance between them i.e. 'where there is knowability there is namability and vice versa. The negative instance of above said example cannot be shown. Therefore, the invariable-concomitance is called kevalānvayin and since, the mark, possesses this type of invariable-concomitance it is called as only positive - mark.

iii) Kevalavyatireki-linga or only negative mark:

The mark which satisfies only negative invariable-concomitance is called as kevalavyatireki-linga or only negative-mark. When there is the invariable-concomitance between absence of reason and absence of probandum then it is called only negative invariable-concomitance. For example, 'The earth is different from
other substances, because it has smell. In this example one cannot show the positive - instance i.e. where there is smell there is difference from other substances, because smell is the property of earth only and not of any other substance. Thus, the invariable - concomitance can be shown 'where there is no difference from other substances, there is no smell. It means the reason 'smell' possesses only negative invariable - concomitance. Therefore, it is called as Kevalavyatireki or only negative mark.

Among these three types of reasons only 'positive-negative mark' fullfills all the five conditions of a good reason. However, the remaining two kinds of reason namely 'only positive' and 'only negative' do not fullfill the two conditions namely Vipakṣa-asattva and Sapakṣa-sattva respectively. Because there, in the case of only positive reason, no negative instance is available and no positive instance is available in the case of only negative example. Therefore, the only negative reason cannot fulfil the condition i.e. Sapakṣa-sattva.
3.3 (A) Hetvābhāsa

In the previous section five conditions of good reason are explained. The reason which fulfills these conditions is called a good reason but the reason which does not possesses these five properties of a good reason is called as *hetvābhāsa* or fallacious reason. One must know these logical fallacies to avoid them. Therefore, almost every logical system, has explained what logical fallacies are?

In the systems of Indian logic, all fallacies are considered as material fallacies and not formal fallacies, because, so far as logical forms are concerned they are same for every valid inference. Therefore, an inference becomes invalid only due to its reason. Thus, to avoid the invalidity of an inference one must have the knowledge of logical fallacies.

*Naiyāyikas* have defined *Hetvābhāsas* or fallacious reasons as follows: "That which appears as if a good reason but actually it is not a good reason".\(^\text{17}\) In *Nyāya-Bhāṣya* *hetvābhāsas* are defined as follows: 'logical fallacies are appear as *hetu* because of the generic property (i.e. *hetutva*) and they possess absence of characters of *hetu*.\(^\text{18}\) In *Nyāya-vārtika* the word 'hetu-sāmānya is explained as like *hetu*, *asadhetus* are also used after the sentence of *pratijñā*\(^\text{19}\)
*hetvābhāsas* are the object of correct knowledge, but obstructor of the inferential cognition. For example, 'The mountain possesses smoke because of fire.' In the instance the reason is fire which is an *asad-hetu*, though it has the property of *pakṣavṛttīva*, it does not possess the property that of *Vipakṣa avṛttītva* i.e., it exists in the hot iron ball, where smoke does not exist. Therefore, there is no *vyāpti* relation between fire i.e., probans and smoke i.e., probandum. Hence, the instrument of inferential cognition i.e., knowledge of invariable concomitance cannot be obtained, the *hetu* is not good reason but it is a fallacious reason.

I) *Hetvābhāsas* according to *Navya-Nyāya* system:

*Navya- Nyāya* system has accepted five *Hetvābhāsas* viz. (1) *Savyabhicāra*; ii) *Viruddha*; iii) *Satpratipakṣa*; iv) *Asiddha*; and v) *Bādhita*.

i) *Savyabhicāra hetvābhāsa*: This *hetvābhāsa* or fallacy involves contradiction of probans with probandum. It is also called *anaikāntika*, because it exists partially with probandum and partially with the absence of probandum. *Sa-Vyabhicāra* means that which exists with *vyabhicāra* and *vyabhicāra* means non-residing on only
one place. For example, 'sound is eternal because it cannot be touched. Because the pot etc. are touchable and they are non-eternal'. Here in the instance hetu or reason is 'touchableness'. It is a fallacious reason. Because there are paramāṇus of earth which are touchable and also eternal. Similarly, Buddhi is untouchable but it is non-eternal. Thus, the reason namely 'touchableness' resides in both 'eternal and 'non-eternal which are contrary to each other. Hence, since it doesn't reside on one place therefore, it is called anaikāntika.

The savyābhicāra fallacy is of three kinds. a) Sadhārana-savyabhicāra; b) Asadhārana savyabhicāra; and c) Anupasamhāri-savyabhicāra.

a) Sādhārana Savyabhicāra:- It is defined as 'which resides in the place where there is absence of probandum.' In the instance "The mountain possesses fire because it is knowable," the reason namely knowability resides in mountain or kitchen etc. where probandum fire also exists, as well as it resides in the lake etc. also where absence of probandum namely fire exists. Because each and every thing in this world is knowable. So, lake etc., are also knowable. Moreover, existence and absence of existence are contrary
properties, but knowability exists on both the properties. So, it is noted here that the reason namely knowability resides in contrary instances also and thus, it violates the condition of sad-hetu i.e. it must be vipakṣa - avṛttitva and is therefore, unable to give rise to the knowledge of invariable concomitance. Hence, it is called fallacious reason.

b) Asādhāraṇa hetvābhāsa - The reason which does not reside in similar instance as well as in contrary instance also, is called asādhāraṇa hetvābhāsa.26 Sādhāraṇa fallacy resides where there is absence of reason, but asādhāraṇa fallacy does not reside in sapakṣa also. It resides only on the pakṣa. Therefore it is unable to give the knowledge of co-locusness of probans and probandum and in this way the knowledge of invariable - concomitance, without which inferential - cognition does not take place. For example: 'Sound is eternal, because it possesses the property viz. soundness. In the example, the reason 'soundness' resides only in sound and not in any other eternal - locus, which can be shown as sapakṣa as well as it does not reside in any vipakṣa where the absence of probandum resides. Since, it doesn't reside in sapakṣa one cannot have the knowledge of co-existence of hetu and sādhya and in this way there is no knowledge of invariable - concomitance. This is how the
inferential cognition does not arise and hence the reason is called fallacious.

c) Anupasamhāri - hetvāḥāsa: Anupasamhāri fallacy occurs when there is non-availability of any positive or negative example. To prove that the reason is invariably related with probandum one has to point out either positive instance of only positive invariable concomitance or the negative-instance of only-negative invariable concomitance. But in this case subject includes all the objects of reason and thus, one cannot get any case where the relation of probans and probandum can be pointed out, either positively or negatively. For example, all the objects are non-eternal, because they are knowable. In this case one cannot show any positive or negative instance where the invariable relation of hetu i.e. knowability and probandum i.e. non-eternality because the subject namely 'All objects' includes all the examples, hence, nothing remains outside of the subject which can be presented as the example. Since, the type of savyabhicāra-hetvāḥāsa does not allow to appear the inferential-cognition it is called a logical fallacy.

However, according to Viśvanātha this type of hetvāḥāsa cannot be called as hetvāḥāsa because, there is no problem at all if
there is knowledge of co-existence in the one particular of subject i.e. pot, cloth etc. Further, if there is no knowledge of co-existence then also it is asiddhi in the form of ignorance but not a logical fallacy. Then also it is accepted as fallacy because it is mentioned before (by authorities) as it is.

ii) Viruddha hetvābhāsa: This fallacy occurs when the probans does exist in the object in which probandum does not exist. In other words, the viruddha hetvābhāsa is that which is pervaded by the absence of probandum. Therefore, as a result such a probans instead of proving the existence of probandum on subject proves its absence.

For example, 'Sound is eternal, because it is produced.' The reason 'produced' is fallacious reason, because it does not co-exist with probandum namely 'eternity'; but with the absence of 'eternity' i.e. 'non-eternity'. Needless to say that it resides in the opposite side of the probans and thus, it contradicts the knowledge of existence of probandum. It means one gets the relation of invariable concomitance 'where there is state of being produced, there is non-eternity', instead of 'where there is state of being produced there is eternity.' Thus, it violates the rule that 'probans must not exist on
the contrary-instance’, hence, it is an obstacle in getting the knowledge of invariable-concomitance. So the reason is fallacious.

The fallacy namely *viruddha* is different from *sādhārana-savyabhicāra*. *Sādhārana-savyabhicāra* exists on contrary instance as well as on similar instance also, whereas *viruddha* never exists on similar instance, it exists only on contrary instance. It differs form *asādhārana savyabhicāra* also, because *asādhārana* neither exists on similar instance nor on contrary instance, but *viruddha* exists on contrary instance.

iii) *Satpratipakṣa hetvābhāsa*: This fallacy occurs when there are two contradictory reasons concerning the same object (probandum) and both are equally strong. It is defined as ‘*satpratipakṣa* is that where there is another reason which proves the absence of probandum.*30 For example sound is eternal, because it has the property namely *srāvanatva* and sound is non-eternal because it is an effect, like pot etc. In the first example the reason namely *srāvanatva* does not prove eternality as well as non eternality. But non-eternality i.e. absence of probandum in the first example is proved by another reason namely ‘effect-ness’ i.e. the sound possesses eternality because it possesses effect-ness. Both the reasons are equal in
strength, hence, the dilemma - 'whether sound is eternal or non-
eternal remains as it is'. No definite knowledge can be obtained.

Satpratipaksa differs from Savyabhicāra. In Savyabhicāra fallacy one and same reason leads to the opposite conclusions. It can be distinguished from viruddha on the point that in viruddha the probans which is expected to prove the existence of probandum (on subject) the same reason proves the absence of probans, but in satpratipakṣa two different reasons prove existence of probandum and at the same time absence of probandum, which are equally strong.\textsuperscript{31}

It violates the rule that probans must be 'asatpratipakṣa'. It means absence of any other equally strong probans which will prove the absence of probandum. But here it is not the case therefore, the reason is fallacious.

iv)\textit{Asiddha hetvābhāsa}: Asiddha hetvābhāsa is defined by Udayanācārya as follows: " Non establishment (asiddhi) means absence of establishment which means true cognition of the reason (vyāpta) through the property of subject.\textsuperscript{32}
Asiddha hetvābhāsa is divided in three kinds. a) Āśrayāśiddha: Svarūpāśiddha and c) Vyāpyatvāśiddha.

a) Āśraya-asiddha - In this kind of asiddha hetvābhāsa there is violation of the rule i.e. the reason must be existent on the subject. It is defined as ‘asiddhi of subject which is qualified by the delimitor of subjectness’. In the example, ‘Sky-lotus’ is fragrant, because it has lotusness', the sky-lotus is not real, therefore, the property namely ‘qualified by the delimitor of subjectness does not exist in the lotus. To explain: in the example subject is sky-lotus, which does not exist in reality. Therefore, one cannot get the property that is subjectness, and hence, there is no possibility of getting any delimitor of subjectness. In this way the delimitor of subjectness is not in existence then how can it qualify the property? Thus, There is no locus or subject at all. It means locus or subject of lotus i.e. probans is not known (asiddha) therefore, the probans (lotus) has no property namely paksadharmatā. So the reason is fallacious and called as āśraya-asiddha.

Because of this logical fallacy the knowledge of parāmarśa becomes obstructed, as for the knowledge of parāmarśa, knowledge of 'property of subject; is necessary and parāmarśa is the cause of
inferential-cognition. The reason cannot generate the knowledge of \textit{parāmarśa}. Therefore, the reason is fallacious.

b) \textit{Svarūpāsiddha hetvābhāsa} - \textit{svarūpāsiddhi} is defined as 'absence of \textit{hetu} or probans on the subject'. For example, sound is quality because it has visibility'. In this example the quality namely visibility does not exist on the subject i.e. in the sound. (sound possesses property of hearing). So, the condition i.e. 'existence of reason on subject' is not achieved. Therefore, as the former instance, here in the present case also knowledge of \textit{parāmarśa} is obstructed and hence, inferential-cognition does not arise. Therefore, the reason is fallacious.

c) \textit{Vyāpyatvāsiddha hetvābhāsa} - The \textit{hetu} which is conditioned is called \textit{vyāpyatvāsiddha}. In the example 'the mountain possesses smoke, because it possesses fire, the relation between fire and smoke is conditioned i.e. to show the relation of invariable concomitance between two terms, one has to take the help of condition or \textit{upādhi}. \textit{Upādhi} is that which is equally pervaded by the probandum but which is not the pervader or probans (\textit{sādhana}). In the example contact of the wet fuel is the condition. According to the definition of \textit{upādhi}, the condition namely contact of wet-fuel pervades the
probandum namely smoke. (One can say that where there is contact of wet fuel (with fire) there is smoke). Thus, it is equally pervaded with probandum but it does not pervade probans namely fire (i.e. one can not say where there is contact of wet-fuel there is fire), because in hot iron ball there is absence of wet-fuel but still fire exists. Therefore, in the instance contact of wet-fuel is the condition.

However, the definition of invariable economitance does not allow any type of condition as it is a natural-relation. Therefore, the reason which is conditioned is unable to establish the relation of invariable concomitance which is an instrument of inferential-cognition. Hence, as the fire is a conditioned probans it is not sadhetu or good reason.

V) Bādhita - In this fallacy absence of probandum is proved by another strong means of true cognition. It is illustrated as 'fire is cold, because it is substance.' Here in the instance the coldness of fire is disproved by the touch-perception. Perception is a stronger means of true knowledge than the inference - another means of true knowledge. Where perception works inference has no scope there as it is a weaker means. Thus, in the example the absence of probandum is proved by another stronger means of knowledge. Therefore, the
probans substanteness becomes here defective and hence it is called *hetvābhāsa* or fallacious reason.

Since, here there is violation of the rule i.e. the object which is to be proved or probandum of a reason must not be contradicted by any other strong proof (i.e. coldness of fire is the object of the probans namely substanteness is disproved or contradicted by perception) the reason is defective.

*Bādhita* is different from *satpratipakṣa*. In *satpratipakṣa* absence of probandum is proved by another reason. While in *bādhita* absence of probandum is proved by another strong means of true knowledge. In the former there is dilemma whether this is true or not but in the latter there is definite knowledge of absence of probandum as it is proved by some other strong proof.
3.3b) **Hetvābhāsa** according to *Mīmāṃsā* system.

*Mīmāṃsā* system generally accepts three *hetvābhāsa* only. They are as follows - 1) *Asiddha* ii) *Anaikāntika* and iii) *Bādhakatva* (*Viruddha*)\(^{37}\). The *Mānameyodaya* which follows the *Bhāṭṭa* tradition adds one more *hetvābhāsa* namely, *asādharāṇa*.\(^{38}\) The *Prābhākaras* accept four kinds of *hetvābhāsa*. They accept the three *hetvābhāsa* proposed by the *Bhāṭṭas* namely - i) *asiddha*, ii) *anaikāntika*, and iii) *bādhakatva*. Instead of accepting *asādharāṇa* *hetvābhāsa* they accept *sādharāṇa* *hetvābhāsa*\(^{39}\).

*Sādharāṇa* is also variety of *anaikāntika*. Thus, the *Mīmāṃsākās* also accept three logical fallacies namely i) *asiddha*; ii) *anaikāntika*; and iii) *bādhakatva*;

According to *Mīmāṃsā* system *asiddha-hetvābhāsa* is of five kinds\(^{40}\)

i) *Svarūpāsiddha* - According to the system, in *svarūpāsiddha* fallacy the nature of *hetu* is *asiddha* or unestablished\(^{41}\). For example *Buddha* is knower of *dharma* and *adharma* because he is omnicient. Here the *hetu* namely omniscientness is not established because it does not exist anywhere. Obviously it will not exist in *Buddha*, thus it is not *hetu* but it is a *hetvābhāsa*. 

---

\(^{37}\) Bhāṭṭa: The *Bhāṭṭas*.

\(^{38}\) Mānameyodaya: The *Mānameyodaya*.

\(^{39}\) Prābhākaras: The *Prābhākaras*.

\(^{40}\) Mīmāṃsā: *Mīmāṃsā*.

\(^{41}\) Asiddha: *Asiddha*.
ii) Sambandhāsiddha - In the example firer does not burn, because it is cold, the hetu coldness is existent, but it has not relation with fire. Hence, the relation between coolness and fire is unestablished, the hetvābhāsa is named as sambandhāsiddha.41

iii) Vyatirekāsiddha - Where there is an absence of difference between the subject and the hetu or where there is an identity relation between pakṣa and hetu, the hetu becomes vyatirekāsiddha.42 For example the word cow is indicated by 'the animal having sāsnā (dewlap) because it is denoted by the word 'cow'. Here hetu 'the word cow' and subject are the same. There is no difference between them. So it is called as vyatireka-asiddha.

iv) Aśrayāsiddha - In the example the sky is eternal, because it is avayavadravya. According to sautrāntika sky is an unreal entity, it does not exist. Therefore, the property i.e. anavyavadravyatva means hetu can not exist on the sky. It indicates that āśrya or substratum, where sādhyā is to be established, itself is not present, but it is absent. So the hetu is āśraya-asiddha43.

v) Vyāpyatvāsiddha - This fallacy occurs when the hetu resides only in a part of subject. For example Air and Sky are non-eternal because they have the property namely mūriatva. Here, the hetu resides only in air
because sky has no form at all. So, it is impossible to establish the relation of invariable concomitance between mūrtatva and the sādhyā i.e. anityatva. Therefore, the hetu becomes Vyāpyatvāsiddha.44

A point can be noted here that in the case of āśraya-asiddha both the systems are of the same opinion. There may be differences of opinion about the nature of sky but so far as the nature of hetvābhāsa is concerned, both the systems agree with each other. However, in the case of svrūpāsiddha there is a difference of opinion between the two systems. Nyāya system says 'svrūpāsiddha' means the absence of reason on the subject and Mīmāṃsā says 'the nature of hetu itself is not established. It gives the reason 'sarvajñatva as a logical fallacy. But as per Nyāya view omniscience resides in God, So it is not un-established. There may be absence of omniscience in the Buddha, but it exists elsewhere. Therefore, to make hetvābhāsa as svrūpāsiddha one should say that there is absence of omniscience (reason) in the Buddha (subject), then it will be the example of svrūpāsiddha.

It can be also said that the fallacy of relation or sambandhā siddha can be included in svrūpāsiddha. Because coldness is not the property of fire i.e. subject. It means that there is absence of hetu coldness in the subject fire, as there is an absence of visibleness in word. It follows the
definition of \textit{svrūpāsiddha}, so logical-economy will be achieved if the \textit{sambandhāsiddha} is included \textit{svrūpāsiddha}.

Moreover, what is \textit{vyāpyāsiddha} for the \\textit{Mīmāṃsā}, it is \textit{bhāgāsiddha} for the \\textit{Nyāya} as a kind of \textit{svarūpāsiddha}. Because there is absence of \textit{hetu} on the subject not totally but partly. But the example fits in the definition of \textit{Svarūpāsiddha}. Thus, it is needless to say that this \textit{hetvābhāsa} also can be included in \textit{svrūpāsiddha}.

\	extit{Nyāya} system has not pointed out the \textit{Vyātirekāsiddha} \textit{hetvābhāsa}. But as per ones understanding it can be accepted as a separate kind of \textit{asidhā} fallacy. \textit{Vyāpyatvāsiddha} is also a different kind of \textit{asidhā} fallacy.

Thus, it can be suggested here that \textit{assidha hetvābhāsa} is of four kinds - 1) \textit{Aśrayāsiddha}; 2) \textit{Svrūpāsiddha} 3) \textit{Vyāpyatvāsiddha} and 4) \textit{Vyātirekāsiddha}.

2. \textit{Anaikāntika hetvābhāsa} - According to \textit{Nyāya} system \textit{anaikāntika} is synonym or another name of the \textit{savyabhicāra} fallacy but \textit{Mīmāṃsākās} hold that \textit{savyabhicāra} fallacy is a kind of \textit{anaikāntika} fallacy. According to them \textit{anaikāntika} fallacy is of two types i) \textit{Savyabhicāra} and ii) \textit{Sapratisādhana}.
The concept of the Savyabhicāra fallacy according to both the systems is the same i.e. the fallacy involves contradiction of probans with probandum, only the examples are different. Example given by Māmāśākas is as follows - "The word is eternal because it is formless." Now the reason 'formlessness' resides in such places, where the probandum namely 'eternity does not exist, i.e. where there is existence of absence of probandum namely in the action etc. Action etc are non-eternal and also formless. Hence, the reason is unable to establish the relation of invariable concomitance. Therefore, the reason is fallacious.

Sapratisādhana is another kind of anaikāntika. This fallacy is accepted as a separate fallacy by Naiyāyikas and they call it satpratipakṣa, but Māmāśākas accept it as a kind of anaikāntika fallacy. The concept of this fallacy according to both the system is same. i.e. This fallacy occurs when there are two contradictory reasons concerning the same object (probandum) and both are equally strong. Māmāśākas illustrate the fallacy as follows - 'Air is non-perceptible, because it is a substance and it is formless. Air is perceptible because it is Mahat and it is touchable. In the example both the reasons namely "it is substance and it is formless" and "it is mahat and it is touchable" are equally strong. Both of them are unable to prove the 'non-perceptibleness' or 'perceptibleness' of the air.
Therefore, the dilemma that is whether the air is perceptible or unperceptible remains same. Therefore, the reason is fallacious.

Prābhākaras do not accept the fallacy as a fallacy. What they say that it is an impossible position that both the reasons are equally strong. If it is so then there will always remain the doubt regarding the nature of probandum. But this does not happen. In the example of the first inference, the reason namely 'air is substance and it is formless' is weaker than the reason in the second inference namely 'air is mahat and it is touchable,' because it is proved by perception and it does not have any contradictory reason. Therefore, sapratisādhana is not a kind of anaikāntika.

The Bhātās answer that if it is argued in this way then the savyabhicāra also will not be the reason of doubt. Then there will arise the contingency of 'endless-doubt' (Nitya-samśaya). The Prābhākaras argue that in the case of savyabhicāra the nature of probandum can be decided by any other means and then doubt will be removed, but in the case of sapratisādhana there is no such a criterian which can decide the nature of probandum.

The Bhātās answer then in the case of sapratisādhana also, the nature of probandum can be decided by any other means of knowledge.
Then argument by the Prabhākaras is that if it is done so then definitely one reason will be strong and another reason will be weak. That is what we say that two reasons cannot be equally strong.51b.

Then the Bhāttas say that who says that both the reasons are equally strong?52 We only say that there is no means to decide which reason is stronger and which one is weaker. In the example, if a person who does not know that 'air is perceptible', whenever apprehends the touchableness of air which also exist in the earth etc. which have form and which are perceptible and also he observes the formlessness of air, which exists in the entities which are not perceptible like sky etc. Then he has doubt that whether air is perceptible or not! In this situation there is no other way to decide definitely that air is perceptible. Therefore, till the decision there are two reasons in which one cannot decide which one is strong and which one is weak. Thus, there arises the fallacy namely sapratipakṣa.53

Mīmāṁsakas include sapratisādhana in the kinds of anaikāntika. But what one feels is that the definition of anaikāntika is not suitable or applicable for the sapratisādhana, because in anaikāntika one and the same reason resides in the contrary cases, but it is not the fact in the case of sapratisādhana. There, two different and equally strong reasons prove
two different positions of the same probandum. Therefore, it is needless to accept the sapratisādhana or satpratipakṣa as a kind of anaikāntika but it is a separate fallacious reason.

**Bāḍhakatvam:** Whatever is bāḍhakatva of Mīmāṃsākās, for Naiyāyikas it is viruddha. The name bāḍhakatva is mentioned in vārttika and Śāstrādīpika but Mānameyodaya mentions it is viruddha. Mānameyodaya is influenced in many ways by the Naiyāyikas.

In the text Mānameyodaya it is defined as per Naiyāyika only.

The viruddha or Bāḍhaka fallacy is that which is pervaded by the absence of probandum. Therefore, the fallacy proves the absence of probandum on the subject instead of proving the existence of probandum on the subject. The example given by Mīmāṃsākās and by Naiyāyikas is the same. Therefore, the example is only mentioned here and not explained. 'Sound is eternal, because it is produced.' In the example the reason 'produced' is pervaded by the 'non-eternality' which is contradictory to eternity i.e. probans and thus it obstructs the knowledge of invariable concomitance, therefore, the fallacy is called Bāḍhakatva or obstructor.
4) Asādhāraṇa hetvābhāsa: This fallacy is separately mentioned in the text Mānameyodaya and Sokavārtika but in Sastrādīpiṇī the book which follows Bhāṭṭas it is not mentioned.

Though the Bhāṭṭas have accepted asādhāraṇa as a separate fallacy it can be taken as an illustration of anaikāntika or savyabhicāra fallacy. However, the concept of the fallacy according to both the schools is same. The asādhāraṇa fallacy occurs when the reason resides only in the subject, though there are similar instances. Similarly, it does not reside in the contrary instance also. For example "the earth is eternal, because it possesses smell." In the example the reason smellness does not reside in any other entity other than the earth. It is unable to give the similar as well as negative example, it is called as logical fallacy.

5) Sādhāraṇa hetvābhāsa: The fallacy is accepted by the Prabhākars only and not by the Bhāṭṭas. The concept of the fallacy is identical with the Nyāya concept of the same fallacy. Only difference is that the Nyāya system accepts it as a kind of savyabhicāra fallacy and the Prabhākara-school accepts it is a separate kind of logical fallacy. For example the word is eternal, because it is knowable. Now, the reason "knowableness" resides in the objects which are eternal as well as non-eternal. Therefore,
it violates the condition of a good reason namely 'vipaka-avrtti'. Therefore, the reason is fallacious.

These last two varieties of hetvābhāsa may be treated as examples of anaikāntika. Hence the number of hetvābhāsa according to Mīmāṃsā system will remain three only.

3.3 C) Logical Fallacies according to Western logic

Western tradition stresses upon the formal validity of syllogism. Therefore, it mainly concerns with the formal fallacies more than material fallacies.

Fallacy is defined by Western logicians as follows: "Fallacy as a type of argument that may seem to be correct, but that proves, on examination, not to be so." The definition is quite similar to the definition of fallacy or hetvābhāsa according Nyāya-system.

There are some material fallacies in the Western tradition but they are not considered here. Only formal fallacies are taken into account.
There are six rules to construct a syllogism. And when those rules are broken the fallacies occur. Let us see the rules and fallacies concerned with them.

**Rule - 1.** "A valid standard form of categorical syllogism must contain exactly three terms, each of which is used in the same sense throughout the argument."^[61]

When there is violation of this rule in an argument then there occurs the 'fallacy of four terms' or that of equivocation.

The fallacy occurs when in a syllogism the same term is used in two different meanings. When this fallacy takes place there does not remain the relation of implication between the premisses and conclusion.

For example

\[\text{Power tends to corrupt}\]

\[\text{Knowledge is power.}\]

\[\text{Therefore, knowledge tends to corrupt.}\]

In the argument it seems that there are only three terms. When one will examine the argument he will definitely find that the word 'power' is used in two different sense. In the first premiss the middle term 'power' means 'the possession of control!' While the word 'power' in the second
premiss it means 'the ability to control the things! Since, there are four terms in the argument the rule is vanished there, therefore, the argument is invalid.

**Rule - 2** In a valid standard form categorical syllogism, the middle term must be distributed in at least in one premiss.\(^{62}\)

It is necessary that the middle term must be distributed at least in one of the two premises. Otherwise, one should not know that there is a common factor which establishes a relation between the two relata.

Unless the two relates are relata to the middle term, there cannot occur the relation between the relata. In simple words middle term is a bond or connection between the major and minor terms. Therefore, it must be distributed. When the rule is violated there arises the 'fallacy of undistributed middle.' For example

\begin{align*}
\text{Some biped beings are birds} \\
\text{All men are bipeds} \\
\text{Therefore, all men are birds}
\end{align*}

In the example the 1st or major premiss is 'I' (particular affirmative proposition) which does not distribute any term. Similarly, the minor or second premiss is 'A' (universal affirmative) proposition which distributes
only subject term. But the middle term i.e. 'bipeds' remains undistributed. Therefore, the rule is violated here and thus, there is 'fallacy of undistributed middle', and the argument is invalid.

**Rule 3** "In a valid standard-form categorical syllogism, if either term is distributed in the conclusion, then it must be distributed in the premisses."

In the deductive form of inference conclusion cannot be more general than the premisses. Since the syllogism is a form of deductive inference, the rule is mentioned here.

When this rule is violated there arises two types of fallacies.

i) **Illicit major** and ii) **Illicit minor**.

When in an argument or syllogism, the major premiss is distributed in the conclusion and not in the major premiss. Then there arises the above said fallacy namely 'illicit major'

For example:-

*All men are rational*

*Some men are artist*

*Therefore, No rational is artist.*
In the instance, the first or major premiss is 'A' proposition which distributes only subject term. In the present case 'Artist' is the subject term, which is neither distributed in the first or major premiss nor in the second or minor premiss, but it is distributed in the conclusion, because conclusion is 'E' proposition and it distributes both the terms. Therefore, here occurs the fallacy of 'illicit major'.

In the following example there is fallacy of 'illicit minor'.

*All women are teachers*

*Some officers are women*

*Therefore, All officers are teachers.*

In the given example 'women' is the middle term; 'teachers' is predicate term and 'officers' is subject term. In the example first or major premiss is 'A' proposition. Which distributes only subject term. But the subject term is 'officers' which is not distributed in the first premiss also in the second premiss. Because second premiss is 'I' proposition and it does not distribute any term. But the subject term namely 'officers' is distributed in the conclusion. Thus, the example goes against the rule. Therefore, it is an example of "illicit minor".
Rule 4 "No standard - form categorical syllogism having two negative premiss is valid."\(^{[64]}\)

As it is stated before, that negative propositions deny class inclusion. So if both the premisses are negative then no relation can be established between the middle term, major term and minor term. Hence, the conclusion cannot be drawn. If the rule is violated then there arises the "fallacy of exclusive premisses."

In the example

*No poets are logicians.*

*Some logicians are not mathematicians.*

*Therefore, Some mathematicians are not poets.*

the premisses are not able to show the relation of middle term 'logician' to the major term and middle term, therefore, the argument is fallacious.

Rule 5 "If either premiss of a valid standard-form categorical syllogism is negative, the conclusion must be negative.\(^{[65]}\)"

An affirmative proposition asserts the class inclusion. It means that if conclusion is affirmative proposition then it also asserts the class inclusion. Therefore to draw an affirmative conclusion, the premisses
must be affirmative. If either premiss is negative then it asserts the class exclusion. (i.e. the negative proposition asserts that there is no relation between middle term and one of the relata.) Thus, it is not possible to establish positive relation between the middle term and two relata. Therefore, if one premiss is negative, the conclusion must be negative.

In the following example -

No players are artists.

Some officers are players

Therefore, some officers are artists.

the rule, namely 'if either premiss is negative conclusion must be negative; is violated. Therefore, the argument is fallacious.

The fallacy is called 'the fallacy of drawing an affirmative conclusion from a negative premiss.'

Rule No.6 "No valid standard-form categorical syllogism with a particular conclusion can have two universal premisses."

As it is stated before, that universal preposition asserts or denies relation between one class and the another class. Similarly, a particular proposition asserts or denies the relation between some class members and
another class members. So if both the premisses are universal then naturally the conclusion will be universal. Therefore, from two universal premisses no particular conclusion can be deduced.

The following example:

\textit{All household pets are domestic animals.}

\textit{No, Unicorns are domestic animals.}

\textit{Therefore, some unicorns are not household pets.}

violates the rule. Therefore, it commits the fallacy namely 'existential fallacy', hence, it is an invalid argument.

Rule 7 "No standard-form categorical syllogism having two particular premisses is valid.\textsuperscript{67}\)

If an argument contents two particular premisses, then it is not valid, because if both the premisses are particular then four combinations of the premisses are possible, namely i)\textit{II}; ii)\textit{IO}; iii)\textit{OI}; iv)\textit{OO}

The first combination i.e. \textit{II} is not possible, because an \textit{I} proposition does not distribute any term but according to the rule the middle term must be distributed. Hence, middle term is not distributed in an argument which contents 'II' premisses, here arises the fallacy of
'undistributed middle'. Therefore, if both the premisses are 'I' propositions then no conclusion can be deduced.

In the second (IO) and third cases (OI), the 'O' proposition distributes only one (i.e. predicate) term. The term which is to be distributed must be middle term to avoid the fallacy of 'undistributed middle'. But in the argument one premiss is negative therefore, conclusion must be negative proposition. Negative proposition means again 'O' proposition, it distributes predicate term. Which is not distributed in the major premiss. (Predicate term is major term and it must be distributed in the major premiss.) Thus, here arises the fallacy of "illicit major".

Hence if one tries to draw a conclusion, he either commits the fallacy of 'undistributed middle' or the fallacy of "illicit major", Thus, the argument becomes invalid.

In the fourth combination i.e. 'OO' there are two negative premisses in the argument. According to rule namely 'form two negative premisses no argument is possible' in the present case no conclusion can be deduced, hence the argument is invalid.

These are the seven formal fallacies according to Western logic.
3.4 **Vyāpti (Invariable-concomitance)**

Vyāpti or invariable-concomitance is an important factor in the process of inferential-cognition. Vyāpti literally means pervasion and it is the cause of inferential-cognition. That is why it has great importance in every logical-system. The term vyāpti is pervasion which is related to two objects or relata. In the example 'Mountain possesses fire, because of smoke' the vyāpti or invariable-concomitance is related to two objects namely smoke and fire.

The smoke is known as pervaded because it exists comparatively less places than fire and fire is called pervaded due to its existence in more places. It means, in all the cases where smoke exists, fire also exists, but not vice versa. Technically, the pervaded and pervader are called probans and probandum respectively and the invariable relation between these two terms i.e., probons and probandum is called vyāpti or invariable concomitance.

The use of the concept of vyāpti seems to be quite old.

According to Karl Potter it is employed by either 'Dinnāga' or Praśastapāda.
Balirama Shukla says that Vācaspati Miśra clearly mentions the word vyāpti for the invariable relation between probans and probandum.\(^1\)

Here in the present topic the views of both the systems namely Navya-Nyāya and Mīmāṃsā system, regarding vyāpti are discussed along with the concept of universal proposition, according to the Western-logical system, which is similar to the concept of vyāpti or invariable-concomitance.

A) Vyāpti according to Navya- Nyāya system

Naiyāyikas define invariable concomitance as "co-existence of probans and probandum on one and the same locus."\(^2\) (Sāhacarya-Niyamah). In the definition there are two words namely 'sāhacarya' and 'Niyama'. Sāhacarya means sāmānādhikaranya or co-existence (of probans and probandum) on one and some locus. 'Niyama' means regularity so it can be said that inseparable co-existence of probans and probandum on one and the same locus is the relation of vyāpti or invariable-concomitance. In the example of smoke and fire, smoke is probans and fire is probandum. Since in all the places where smoke exists fire also exists for instance in the kitchen etc. there is relation of invariable-concomitance between
smoke and fire. The form of vyāpti is 'where there is probans (smoke) there is probandum (fire)'.

In the example smoke is pervaded and fire is pervader as smoke exists on less places than fire. So there is invariable-concomitance between smoke and fire i.e. where there is smoke there is fire, but not vice versa. (i.e. one can not say that where there is fire there is smoke, because in a hot-iron ball there is fire but not smoke). The point to be noted here is that in the present case probans and probandum are not equally extensive, hence, the relation of invariable-concomitance between smoke and fire is called visama-vyāpti or non-co-existensive concomitance.

But always it is not the case. Sometimes since probans and probandum are pervader and pervaded of each other, the invariable-concomitance between them is called sama-vyāpti or co-extensive concomitance. For example, this pot is knowable, because it is namable. Here in the instance, knowability is probandum and namability is probans. Since, the area of existence of both is some they are called sama-vyāpta' or equally pervaded.

To include such cases also, Naiyāyikas simply define the invariable concomitance as invariable co-existence of probans and probandum. Obviously the definition is very basic. To clarify the definition, logicians paraphrase the definition as follows: "The property of delimiter of
probansness, which co-exists on the one and the same locus with the probans, which is limited by delimiter of the counter-positiveness of the absolute absence co-existing on the one and the same locus, with probans is called 'invariable-concomitance'.

In the example, 'mountain possesses fire because it possesses smoke' smoke is probans therefore, state of being reason exists in smoke. The delimiter of state of being reason will be smokeness. Fire is probandum, so the state of being probandum exists in the fire. The delimiter of state of being reason will be smokeness. Fire is probandum, so the state of being probandum exists in the fire. The delimiter of the state of being probandum will be fireness. Locus is mountain. There is existence of smoke and fire together, but not of fire and water. There is absence of water there. Water is counter-positive of absence of water, so counter positiveness exists in water, therefore, the delimiter of counter positiveness will be watemess, which is different from the delimiter of the state of being probandum i.e., fireness. It means whatever is the delimiter of the state of being probandum is not equal to that what is the delimiter of the counter positiveness.

There is existence of smoke i.e. probans and fire i.e. probandum on the one and the same locus. (And this co-existence is observed in many places like kitchen etc.). Therefore, there is invariable concomitance
between smoke and fire. Thus, the definition is applicable to the example of good reason.

The definition is not applicable to the example of a bad reason. For example, the mountain possesses smoke, because it possesses fire. In this example fire is probans. Therefore, state of being probans exists in fire, so the delimitor of the state of being probans will be fireness. As smoke is probandum, the state of being probandum exists in smoke, therefore, the delimitor of the state of being probandum will be smokeness. Locus is hot iron ball. There is existence of fire but absence of smoke, thus, the smoke is the counter positive of the absence of smoke. That means, the delimitor
of the counterpositive will be smokeness, which is not different from the
delimitor of the state of being probandum. It means that there is no co­
existence of probans and probandum on one and the same locus. Thus, the
definition is not applicable to the example of the bad reason.

While demonstrating \textit{pūrva-pakṣa-vyāpti} Gangeśopādhyāya gives
five provisional definitions and refutes them as they are not applicable to
\textit{kevalānvayi-linga}. However Viśvanātha gives only one definition of
\textit{pūrva-pakṣa-vyāpti} which is adopted from Gangeśopādhyāya only. The
definition is as follows "the absence of relation (of the probans) on that
which is not possessed of probans, is called \textit{vyāpti} or invariable
concomitance. It is true that the definition is applicable to the example of good reason. For instance, the mountain possesses fire, because it possesses smoke, fire is probandum. That which is possessed of probandum is kitchen etc. and lake is different from that (kitchen). The smoke does not reside there in the lake etc. i.e., there is no existence of smoke in the pond or lake etc. Therefore, the definition is applicable to the example of good reason.

Indeed, the definition is not applicable to the example of bad reason. For example, the mountain possesses smoke because it possesses fire. In the instance smoke is probandum. Hot iron ball possesses fire but it does not possesses smoke. Thus the fire is not absent on the locus where smoke does not exist. Thus, the definition is not applicable to the instance of bad reason.

But the definition of invariable concomitance is not applicable to the kevalānvayi-liṅga. For example, the pot is knowable because it is namable. Since, all the entities existing in the world, are namable and that is why they are knowable i.e., possessed of probandum, the entity which is other from that which possesses probandum is not available. Therefore, the non-existence (of the reason) on that which is other than that which possesses probandum cannot be shown. Thus, the definition is not
applicable to the example of the only positive mark, therefore it is not acceptable.\textsuperscript{74}

Generally, two kinds of invariable concomitance are accepted. One is \textit{anvaya vyāpti} or positive invariable concomitance and another is \textit{vyatireka vyāpti} or negative invariable concomitance.

The only positive invariable concomitance is the relation between probans and probandum and the only negative invariable concomitance is defined as 'the invariable concomitance between the absence of probans and the absence of probandum.

In the example of smoke and fire when there is invariable concomitance between smoke and fire i.e. where there is smoke there is fire, then it is the positive invariable concomitance and when there is invariable concomitance between their absences i.e. where there is absence of fire there is absence of smoke, then it is called negative invariable-concomitance.

In positive invariable concomitance probandum is pervader and probans is pervaded but in negative invariable concomitance it is in inverse order i.e. the absence of probandum is pervaded and absence of probans is pervader.
According to some scholars negative invariable concomitance means nothing but it is conversion or obverted conversion of positive concomitance. However, if this view is accepted the problem will arise in the case of only negative mark, where the positive invariable concomitance is not available at all. In the instance 'earth is different from other than earth, because it possesses odour', we cannot find out the positive invariable concomitance i.e. where there is odourness there is state of being different from other than earth, because the quality namely odourness is possessed by the earth only and not by anything other than the earth. Thus, there is no similar example apart from the subject. Moreover, plenty of such instances can be shown, where there is absence of probandum resides along with the absence of odourness. It means here in the instance only negative example is available. But if the view mentioned above is accepted, then such examples cannot be covered. Therefore, logicians have accepted negative invariable concomitance as a separate type of invariable concomitance.

According to the definition of inferential cognition, it is true that inferential cognition is produced by parāmarśa, however, to know parāmarśa one should have the knowledge of invariable concomitance. Because, the definition of parāmarśa contains the word vyāpti -viśṣṭa or qualified by invariable concomitance. Moreover, it is the special or
uncommon instrument of inferential-cognition, because it produces parāmarśa as vyāpāra and then inferential-cognition as the result. Thus, to know inferential-cognition, knowledge of parāmarśa is necessary and to know parāmarśa, knowledge of invariable-concomitance is necessary.

B. Vyāpti according to Mīmāṃsā:

Mīmāṃsākās also accept the relation of invariable concomitance as an instrument of inferential cognition. In the definition of inference, according to Mīmāṃsā the word jñāta-samambandha or known-relation denotes the invariable concomitance.77

Instead of using the term vyāpti for the relation between probans and probandum Mīmāṃsākās use the term 'Niyama'. We have seen in the previous topic that Naiyāyikas use the term vyāpti for the relation but Mīmāṃsakās do not agree to accept the term 'vyāpti' for the same relation. They argue that vyāpti means pervasion and nothing else.

The word 'Niyama' does not create any problem. It means the necessary relation between the probans and probandum.78

However, in Ślokavārtika Kumārila uses the word vyāpti for the relation between probans and probandum.79
According to the Bhāṭṭas' vyāpti is a relation of property of mark with that which possesses the mark. In other words, it can be said that the relation between mark or probans and probandum is called invariable concomitance. In the stock example smoke is the mark and fire is related to that mark. (Both of them exist on one and the same locus. The invariability of the together existence of smoke and fire is observed in many places.). Therefore, the relation between smoke and fire is called the relation of invariable-concomitance or Niyama.

Niyama means the invariability of relation which is based on the previous experiences or observations (i.e. the invariability of together existence of smoke and fire is based upon, many observations.). The relation may imply any kind of relation between probans and probandum. The relation may be contact, inherence, ekārthasamavāya or cause and effect relationship. For example, the relationship between fire and smoke is cause and effect relationship. Fire is the cause and smoke is effect.

It is not necessary that the relation of invariable concomitance always should be between two universals. Some times it may be a relation between two particulars also. For example, the astronomers infer the rise of Rohini after the rise of Kṛttikā. This inference is not possible without the knowledge of invariable-concomitance between Kṛttikā and Rohini. Kṛttikā and Rohini are not universal characters, but they are particulars.
Thus, there may be invariable concomitance between two particulars also.\textsuperscript{32}

According to the Prābhākars vyāpti or niyama is natural relation between probans and probandum.\textsuperscript{33a} The natural relation means the relation without any condition.\textsuperscript{33b} The relation between fire and smoke is natural relation, but not vice versa. It means the relation between fire and smoke is not nirupādhika or without any condition.

The condition means upādhi. Upādhi means a factor which is pervader of probandum, but which is not pervader of probans.\textsuperscript{34} For example, the relation between fire and smoke is conditional relation. Here in the instance the condition is wet fuel. Wet fuel is pervader of smoke which is probandum (i.e. one can say that where there is smoke there is wet fuel) but it does not pervade the fire i.e. probans (i.e. one cannot say that where there is fire there is wet fuel). Thus, the wet fuel is condition between the relation of smoke and fire. If somebody wants to establish the relation between fire and smoke he has to say that where there is wet fuel contact with fire there is smoke. But the conditioned relation between probans and probandum is not allowed by the definition of invariable-concomitance as it is a relation without any condition. Therefore, the relation between fire and smoke is not natural. But the relation between
smoke and fire is natural (i.e. one need not say that where there is wet fuel contact with smoke there is fire.).

Thus, according to the Prābhākaras invariable concomitance is the natural relation between probans and probandum.

The Nyāya and the Māmāśā agree on the point.

C. Concept of Universal Proposition

In the Western logic proposition is defined as follows:

"We use the term 'proposition' to refer to what such sentences (e.g. 'Leslie won the election' and 'The election was won by Leslie') as these, declarative sentences, are typically used to assert" Propositions are either true or false and thus they can be asserted or denied.

The analysis of categorical proposition is based on four elements: i) Subject; ii) Predicate; iii) Quality and iv) Quantity.

Subject and predicate are called terms and every proposition has these two terms only. These two terms are joined by a certain element which is called 'copula'. According to traditional logicians copula must be in the present tense of verb 'to be'. For example, in the proposition 'All singers are artists' the term 'Singers' is subject; the term 'Artists' is predicate term and 'are' is copula.
There is four fold classification of propositions according to traditional scholars. This classification is based on the quality and quantity of propositions. So, on the basis of quality propositions are classified as 'affirmative propositions' and 'negative propositions'. And on the basis of quantity they are classified as 'universal propositions' and 'particular propositions'.

Thus, there is four fold classification of propositions as follows: i) Universal affirmative; ii) Universal negative; iii) Particular affirmative and iv) Particular negative.

"The propositions which predicate something of all of a class are designated as universal propositions while those which predicate something of an indefinite part of a class are designated as particular propositions."

The first proposition is universal affirmative proposition. It is called so, "because a universal affirmative proposition says that every member of the first class is also a member of the other class." Thus, in the example "All flowers are fragrant" or "All the cases of smoke are the cases of fire", the subject terms namely 'flowers' and 'cases of smoke' designate the class of 'all cases of smoke' respectively; and the predicate terms namely 'fragrant' and 'cases of fire' designate the class of 'fragranceness' and the class of 'all the cases of fire' respectively. And the
proposition asserts that all the members of 'flower-class' are necessarily members of 'fragrant class' or all the members of class of 'cases of smoke' are necessarily members of class of 'cases of fires.' Thus, the universal affirmative proposition affirms that the relationship of class inclusion holds between the two classes and says, that the inclusion is complete or universal. The proposition can be written symbolically as follows: All S is P. Here S stands for subject and P stands for predicate.

We have seen that in the universal proposition there is assertion of relationship between two classes of subject and predicate term, of the proposition but in the negative universal proposition there is denial or exclusion of relationship between two classes of subject and predicate term of the proposition. In other words it can be said that 'a universal negative proposition says that the first class is wholly excluded from the second' i.e. there is no member of first class that is also a member of the second." For example, the proposition 'No students are liers' says that the 'class of students' (i.e. the subject term) is totally excluded from the 'class of liers.' It means that the universal negative proposition denies the relation of class inclusion and holds between the two classes and denies it universally."

The form of universal proposition is closer to that of invariable concomitance. For example "all the cases of smoke are the cases of fire" is
an universal proposition and 'where there is smoke there is fire' is a sentence of invariable concomitance. As the universal proposition mentions the relation between two classes, similarly the invariable concomitance asserts the relation between two classes.

Now, the question is how to acquire such a relationship.

This question gave birth to the inductive logic in the Western tradition, but still the problem remains there as it is.

But in Indian tradition the problem is solved. Indian traditions have means of getting the knowledge of invariable concomitance and therefore, they do not have the problem of induction.

According to Naiyāyikas the knowledge of invariable concomitance can be acquired through the observation of constant co-existence of probans and probandum and obviously, there should not be observation of contradictory instance. For example if one observes that smoke and fire are related everywhere i.e. in the kitchen etc. then he can have the knowledge of co-existence of smoke and fire. But suppose a single instance he observes that there is smoke but there is no fire, then the knowledge of invariable concomitance will not arise there. Therefore, along with the observation of sahacāra or co-existentness of probans and
probandum there must not be observation of a vyabhicāra or contradictory instance.

The knowledge of co-existence can be acquired through the anvaya or co-existence between probans and probandum and the vyātireka co-existence between the absence of probans and that of probandum. So, if there is the relation of invariable concomitance between smoke and fire everywhere and also there is co-existence between the absence of fire and that of smoke then one can have the knowledge of vyāpti. Further, in the case of some instances, tarka can remove the doubt regarding the invariable concomitance between the probans and probandum.

Suppose, there is doubt that there is possibility of smoke without fire, then it can be removed through the definite knowledge of cause and effect relationship between smoke and fire i.e. smoke is effect and fire is cause of smoke and since, the effect never exists without the cause there is the relation of invariable concomitance between smoke and fire.  

However, still the doubt remains that how is it possible to know the invariable relation between all the cases of probans (smoke) and that of probandum (fire)? Because for a person it is not possible to observe all the cases of smoke and fire as related. To remove this doubt Naiyāyikas
have a theory of *sāmānyalakṣaṇā prattyāsatti* or supernormal perception.\(^{92a}\)

*Naiyāyikas* state that after seeing single smoke and single fire, one gets the knowledge of whole class of smoke through 'smokeness' and that of fire through 'fireness'. Then there is knowledge that smoke is universally related to fire. Thus, now there is no room for the doubt that how the knowledge of invariable concomitance is possible.\(^{92b}\)

Hence, *Naiyāyikas* accept that the knowledge of co-existence of probans and probandum, the knowledge of absence of contradictory example, *tarka* and supernormal perception are the means of knowledge of invariable concomitance.

The Bhāṭṭas hold that *vyāpti* or invariable concomitance between universal properties or some times particular properties can be acquired through the repeated observation.\(^{93}\) When a person frequently observes in the kitchen etc. that smoke is invariably related with fire and also when he does not observe any contradicted situation i.e. there is smoke but there is no fire, he gets the knowledge that where there is smoke there is fire. Smokeness and fireness are the universal properties but through the same means one can have the knowledge of invariable concomitance between two particulars also. For example, from the rise of the *Kṛtikā*, the rise of
Rohini is inferred. These two are particulars and there is some kind of relation of invariable concomitance. Because of that knowledge of invariable concomitance between them, the inference is possible. The knowledge can be acquired from the repeated observation of the rise of Krttika and after that the rise of Rohini.

The Prábhákaras say that vyápti can be acquired through single observation only. The repeated or frequent observation helps only to remove the doubt regarding the upádhi or any type of condition.

The Bháttas do not accept the view of the Prábhákaras. They argue that the relation which is free from all the conditions is the cause of inferential cognition. To remove the doubt regarding the condition between the relation of invariable concomitance Prábhákaras have accepted the frequent observation. Therefore, the knowledge of invariable concomitance can be acquired through the repeated observation only and not through single observation.

One more objection is raised on this view of the Bháttas that mere repeated observation cannot be helpful for getting the knowledge of invariable concomitance. Because in the case of a lady 'Maitri' and her black children there is repeated observation still there is no invariable relation between the state of being the child of 'Maitri' and the state of
being of dark complexion i.e. one cannot say that where there is the state of being the child of Maitrī there is state of being of black complexion. To remove this difficulty, the Bhūtas accept tarka as the means of knowledge of invariable concomitance.97

Tarka is that argument which removes the doubt regarding an object which is to be proved by a means of true knowledge i.e. if there is doubt that object is different (anyathā) then the tarka removes the doubt that it is not different but the object itself.98 Thus, Mīmāṃsākās accept repeated observation of relationship between probans and probandum and tarka as the means of knowledge of invariable concomitance.

Thus, the Indian logicians have solved the problem of induction by resorting to the means of knowledge of invariable concomitance such knowledge of co-existence, absence of knowledge of contradictory case, repeated observation and tarka.

3.5 Parāmarśa

Parāmarśa is the unique step, proposed by logicians in the process of inference. It is the immediate cause of inferential-cognition. Let us see first what parāmarśa is. Parāmarśa is the
knowledge of probans which is qualified by invariable-concomitance and which exists on the subject. It is a sort of confirmatory knowledge and thus, very natural in the process of inference.

An example will clarify the point. A man who knows from the previous observations that smoke is invariably related to fire, when happens to see the smoke on the mountain connected with the mountain, he remembers the invariable concomitance between smoke and fire, i.e. where there is smoke there is fire. Then naturally he confirms himself that 'Oh! the same smoke which is pervaded by fire, exists on the mountain.' This confirmatory knowledge is called parāmarśa. After the knowledge of parāmarśa there arises the knowledge of inferential-cognition, that 'The mountain possesses fire.' Thus, the knowledge of probans i.e. smoke, qualified by invariable concomitance, i.e. smoke is pervaded by fire (because, qualified by invariable concomitance means pervaded by probandum) and which exists on subject i.e. in the mountain is called parāmarśa.

Parāmarśa plays very important role in the process of inferential cognition. The full idea of this unique step and different opinions about the concept will be discussed in the next chapter.
In the Western tradition the standard form of inference is called syllogism and it contains three and only three propositions expressed by three terms. The Western logicians define syllogism as follows: "A Categorical syllogism is a form of reasoning consisting of three propositions having between them three and only three terms, which are so related that the first of two propositions jointly imply the third.\(^{100}\)

Let us see what they mean by the terms like 'proposition' and 'terms'.

Proposition is a kind of a sentence, which is declarative in nature and it is used specially to assert. In other words, proposition is declarative sentence which asserts something. Three propositions are used to form a syllogism. The first two are technically called "premises" and the third is called 'conclusion'. They say that "conclusion of an argument is the proposition that is affirmed on the basis of the other propositions of the argument and these other propositions, which are affirmed (assumed) as providing support or reasons for accepting the conclusion are the premises.\(^{101}\) In the example "All men are mortal" and "Socrates is man" are premises and "Therefore, Socrates is mortal" is the conclusion. In the standard form of categorical syllogism, the conclusion follows necessarily
from the premisses. The relation between the propositions is called implication.

The quality of a premiss that is whether the premiss is 'major' or 'minor' depends upon the term contained in it.

The term which occurs as the predicate term of the conclusion is called 'major term' and the premiss which contains the major term is called 'major premiss'. In the above example 'mortal' the major term, and the premiss which contains the term "mortal" i.e. "All men are mortal" is called as major premiss.

The term that occurs as the subject term of the conclusion is called "minor term" and the premiss which contains the minor term is called "minor premiss". In the example 'Socrates' is the minor term and the premiss which contains it i.e. 'Socrates is man' is called minor premiss.

"The third term of the syllogism, which does not occur in the conclusion, appearing, instead in both premisses, is called the middle term." In the example 'man' is the middle term.

Western logicians maintain that formal validity of syllogism is more important. A logician is not concerned with the truth of premiss, but he must be aware about the logical form of the syllogism. In a standard
form of syllogism, the major premiss is stated first, the minor premiss second and the conclusion is stated at the last.

The two forms of the syllogism are available, depended upon two considerations. The first form namely 'Figure of the syllogism' is determined by the position of the middle term which occurs in both the premisses. And the second form is called 'Mood of the syllogism' which is determined on the basis of quality and quantity of the three propositions.

There are four possible figures of the syllogism. It is to be noted here that the 'minor term' is represented (in a syllogism) by the symbol 'S'; the major terms by the symbol 'P' and the middle term by the symbol 'M'.

In the first figure of the syllogism the middle term is the subject of the major premiss and predicate of the minor premiss. Thus, the first figure will be as follows:

\[
\begin{align*}
M & \quad P \\
S & \quad M \\
\therefore S & \quad P
\end{align*}
\]

In the second figure of a syllogism the middle term is the predicate of both the premisses.
In the third figure of syllogism the middle term is the subject of both the premisses. The figure will be as follows:

\[
\begin{align*}
 P & \quad M \\
 S & \quad M \\
 \therefore S & \quad P
\end{align*}
\]

When the middle term is the predicate of the major premiss and the subject of the minor premiss, the figure is called fourth figure.

\[
\begin{align*}
 M & \quad P \\
 M & \quad S \\
 \therefore S & \quad P
\end{align*}
\]

As it is stated before that mood of a syllogism is determined by the quality and quantity of the propositions. There is four-fold classification of propositions. 1) 'Universal affirmative' which is represented by the symbol 'A'; 2) Universal negative. Symbol of which is 'E'; 3) Particular affirmative is the third type of proposition and which is symbolised as 'I' and the fourth type of proposition is called particular negative and the symbol of the proposition is 'O'. Thus, the propositions are classified into 'A', 'E', 'I' and 'O'. The combination of these propositions in various ways
is called as 'Mood of a syllogism'. The possible moods are sixteen.

These are as follows,

<table>
<thead>
<tr>
<th>AA</th>
<th>AE</th>
<th>AI</th>
<th>AO</th>
</tr>
</thead>
<tbody>
<tr>
<td>EA</td>
<td>EE</td>
<td>EI</td>
<td>EO</td>
</tr>
<tr>
<td>IA</td>
<td>IE</td>
<td>I1</td>
<td>IO</td>
</tr>
<tr>
<td>O1</td>
<td>OE</td>
<td>O1</td>
<td>O0</td>
</tr>
</tbody>
</table>

From each of these, four conclusions (A,E,I,O) are possible and taking into account them there are sixty-four moods in each figure or two hundred fifty six moods in all.
REFERENCE

1) "Anumitacaramakaraṇaliṅgaparāmarṣapravājakaśībdajanaka-vākyam." Tattvacintāmaṇi Page No. 925

2) A Modern Introduction to logic, Page No. 81.

3) Introduction to logic. Ibid.

4) Sandigdha-sādhyavān Pakṣaḥ, Tarkasaṅgraha, Page No. 43.

5) Siṣṭādhyayisayā sīnyā siddhīryatra na tisṭhati sapakṣaḥ,
Nyāyasaiddhānta Muktāvalī,

page no. 146

6) Ibid.

7) Jijñāsitadharmaśiṣṭaśca pakṣaḥ ityukatam, Mānameyodaya,

Page No. 66.

8) Niścitaśādhyavān sapakṣaḥ, Tarkasaṅgraha, Page No.43

9) Niścita śādhyābhāvavān vipakṣaḥ. Ibid Page No.44

10) Sādhyavattayā pakṣavacanam pratijñā Ibid. Page no. 39
11) Sādhyanirdeśaḥ pratijñā (Nyā sū. 1-1-31), Nyāyadarśanam, Page No. 272

12) Prajñāpanīyena dharmeṇa dharminah viśṣṭasya parigrahavacanam pratijñā (Nyāya bhāṣya), Ibid.

13) (Parapratipādanārtham) paksavacanam pratijñā
Mānameyodaya,

Page No. 66.

14. Tarka Saṅgraha - Page No.-
15.i. Tarka - Bhāṣā - Page No. -
ii. Mānameyodaya, by Nārāyaṇa Page No.-
16. i. Tarka - Saṅgraha - Page No. -
ii) Mānameyodaya

17. Hetuvadābhāsaḥ ante iti hetvābhāsaḥ duṣṭahetavaḥ ityarthah.

(Nyāya - Bhāṣya)

Page No. 363

19. Kim punṛhetubhiraḥetum sāmānyam yena hetuvadābhāsant iti?
Pratijñānānātaram prayogaḥ sāmānyam ..... Nyāya - vārtika Ibid.
20. Anumitipratibandhakayathārthāḥjaśnaviṣayatvatam
hetvābhāsaḥsavatvam.

Tarka-dīpikā (com. on Tarka-saṅgṛaha - Page No.44)

21. Savyabhicāraviruddhasatpratipakṣāsiddhabādhitāḥ pañca
hetvābhāsaḥ. Ibid

22. Nyāya Bhāṣya (1.2.5)

23. Ibid

24. Tarka-saṅgṛaha. Page No.44

25. Tatra sādhyā bhāvavadṛttīḥ sādhāraṇo anaikāntikaḥ lībid

26. Sarva sapakṣa vipaksavyāyītto'sādhāraṇaḥ. Ibid.

27. Anvaya-vyātireka drśṭāntarahitonupasamhārī lībid


29. Sādhyābhāvavyāptoteturvīruddhāḥ Tarka-saṅgṛaha Page NO.45

30. Yasya sādhyābhāvasādhakam hetvāntaram vidyate sa
satpratipakṣaḥ.

Ibid

31. Yatra tu tulyabale anumāne nipataṭaḥ sa satpratipaksasya
viṣayaḥ

Nyāya maṇḍarī
32. Vyáptasya paksadharmatayá pramitiḥ siddhiḥ, tadabhávah asiddhiḥ.

Gautama Nyáysútra 1-2-49.

33. Ášrayá siddhirnáma pakśatávachhedaka - viśiṣṭa-pákṣa-asiddhiḥ.

(Nyáya Bodhiní) Tarkasangraha Page No.47

34. Svarúpásiddhirnáma pakśe hetvabhávah Ibíd. Page No.48

35. Sopádhiko vyápyatvá siddhaḥ Ibíd (Tarkasangraha) Page No.46

36. Yasya sádhyabhávah pramáṇantareṇa niścitaḥ sa Bádhitaḥ Ibíd

37. Asiddhiḥ, anaikántikatvam, bádhakatvam ceti trayo hetudosāḥ. Śástra-dípiká, Page No. 120.

38. Asiddhaḥ, viruddhaḥ, anaikántikaḥ, asádháranśceti catvárastraabhávah Mánameyodaya, Page No. 69.


40a) Śástradípiká, Page no. 120.

40b) Śástradípiká, Page no. 120.

41) Ibíd.

42) Ibíd.

43) Ibíd.

44) Ibíd.
45) Tarkabhāṣa, Page No. 347.

46) Śāstrādīpikā, Page No. 121.

47) Ibid.

48) Ibid.

49) Ibid.

50) Ibid.

51a) Ibid.

51b) Ibid.

52) Ibid.

53) Ibid.

54) Ibid.

55) Mānameyodaya, Page No. 69.

56) Sādhya viparītavyāpti heturviruddhāp, Ibid, Page No. 74.

57) Mānameyodaya, Page No. 74.

58) Prakaraṇa-pañcikā, Page No. 207.

59. Introduction to logic Page No. 114

60. "Hetuvadābhāsante iti hetvābhāsāḥ dustahetavah."

Nyāya - Bodhini Page No. 44.
From 61 to 69 Page No.261 to 266. Introduction to logic.

70) The Encyclopedia of Indian-Philosophy VOL-5 Page No.200

71) Anumāna Pramāṇa. Page No. 54.

72) Tarka-Samgraha. Page No. 34.

73) Hetusamāñādhikaraṇa-aryāntābhāva - pratiyogita -anavachhedaka - sādhyatāvachhedakāvachhinna-sādhyasāmāñādhikaranyavṛtti - hetutāvachhedakatvam - vyāptih. Tarka Dipikā Prakaśa

74) Nyāya Siddhānta Muktāvalī. Page No. 130.

75) Parāmarśajanyam jñānamanumitiḥ. Tarkasamgraha. Page No. 34.

76) vyāptivistāsya paksadharmatājñānam parāmarśaḥ. Page No. 128.

77) Jñātasambandhasya ekadeśadarśāsaṅdekadeśāntare asannikṛṣte arthe buddhiḥ. Sabarabhāṣya (MS 1.1.5)


79) Māṁśā ślokavārttika. Anu (MS 1.1.5) Verse No. 4.

80) Ibid.

81) Śastradīpikā. Page No. 109, 110.

82) Māṁśā ślokavārttika. MS (1.1.5 Anu.). Verse No. 12,13

83a) Brhati, with Rjuvimala Pañcikā. Page No. 96

84) Ibid.
85) Introduction to logic. Page No. 2.
86) An introduction to logic and scientific method. Page No. 35.
87) Introduction to logic. Page No.
88) Ibid.
89) Ibid.
90) Nyāyasiddhānta Muktāvalī. page No. 251.
91) Ibid. Page No. 252.
92) a & b. Ibid. Page No. 121.
93) Mīmāṃsā ślokavārttika.
94) Ibid.
95) Mānameyodaya. Page No. 33.
96) Ibid. Page No. 34.
97) Ibid.
98) Ibid. Page No. 35.
99) Vyāpyasya pakṣavṛttivadhīḥ parāmarsa ucyate, Nyāya siddhānta - Muktāvalī. Page No.128
100) A Modern Introduction to Logic Page No.81.
101) Introduction to Logic Page No.5.
CHAPTER - 4

PARÁMARÍA
CHAPTER - 4

PARĀMARŚA

4.0 PARĀMARŚA

Anumāṇa or inference is the instrument of inferential cognition. Inferential cognition arises from parāmarśa. A question comes to our mind: 'What is parāmarśa?' Because without parāmarśa inferential-cognition will not arise. To understand this point let us consider an example. A man who has noticed in the kitchen etc. that smoke is concomitant with fire, happens to see afterwards on a mountain smoke, connected with the mountain. Then he remembers invariable concomitance between smoke and fire i.e. 'where there is smoke there is fire.' Then he has the knowledge that the mountain is possessed of smoke which is pervaded by fire. This knowledge is what is called parāmarśa. because parāmarśa means 'The knowledge of that which exists on the subject and which is qualified by invariable - concomitance'. In brief knowledge of such probans which is qualified by invariable concomitance and exists on the subject, is called parāmarśa. In the example knowledge of such smoke, which is pervaded by fire and which exists on the mountain is called parāmarśa.
We have seen before (in chapter 2) that *Navya-Nyāya* system accepts five sentences which constitute the process of inference. *parāmarśa* is the fourth step in the process, which is called as *Upanaya*. *Upanaya* literally means that which leads to (the conclusion) or that which goes nearer to (the conclusion). Gautama defines *Upanaya* as - 'The statement, which follows the example either in the form 'it is like this' or 'it is not like this' is called *Upanaya*'.

It seems that the term *parāmarśa* for the *upanaya* is used by Vācaspati Miśra for the first time.

After that the term *parāmarśa* is used by almost all the logicians

4.1 Form of *parāmarśa*

According to the definition of *parāmarśa*, knowledge of *vyāpti* or invariable-concomitance and knowledge of *paksadharmatā* or property of subject are necessary factors to know what *parāmarśa* is. Because in the definition, *Vyāpti-viśeṣṭatā* - the state of being qualified by invariable-concomitance and *paksadharmatā* -the state of being existent on the subject, are mentioned. Naturally, without understanding of these two concepts the idea of *parāmarśa* will not be clear.
We have seen before that *Vyāṇa* or invariable-concomitance, means co-existence of probans and probandum on the one and same locus. For example, smoke always co-exists with fire, in the kitchen etc. The form of this knowledge of invariable concomitance is 'where there is probans (smoke) there is probandum (fire).

In the example, fire is pervader (*Vyāpaka*) and smoke is pervaded (*vyāpya*) because in all cases where smoke exists fire also exists. But opposite is not the fact. So the area of the existence of fire is larger than that of smoke. Therefore, smoke is called pervaded or *vyāpya*. *Vyāpya* means qualified by invariable-concomitance i.e. *vyāṇa*-viśīṣṭa and property of *vyāṇa*-viśīṣṭa is *vyāṇa*-viśīṣṭatā.

According to logicians knowledge of that which is qualified by invariable - concomitance alone is not sufficient for the inferential-cognition. They say that one more condition is necessary, which will give us exact idea of probans. Otherwise, each and every smoke in the world will be cause for the particular inferential-cognition, because each and every smoke is pervaded by fire and thus possesses the state of being qualified by invariable-concomitance. Hence, to avoid the contingency they state another condition in the definition i.e. 'knowledge of *pakṣa-dharmatājñānam*.
Subject or *pakṣa* means something on which the existence of probandam is doubted. In the present case fire is the probandum and it is to be established on the mountain. Therefore, mountain is *pakṣa* or subject. And the existence of such probans (which is qualified by invariable concomitance) is called *pakṣadharmatā* - the state of being the property of subject. Hence the existence of smoke (qualified by invariable-concomitance) on the mountain is called the state of being property of subject, and the knowledge of such probans which is qualified by invariable-concomitance and which exists on the subject is called *parāmarśa*. Thus, the knowledge of *parāmarśa* is combination of two distinct knowledges namely 'knowledge of invariable concomitance' and 'the knowledge of property of subject'. The form of *parāmarśa* thus will be either *"pakṣe vyāpyām"* - there is probans (smoke) on the subject (mountain) or *"pakṣah vyapyāvān"* -- the subject (mountain) possesses probans (smoke).
4.2 Function of Parāmarṣā:-

As it is pointed out before that parāmarṣā is the fourth-step in the process of inferential-cognition. It is the immediate cause of inferential-cognition. But, in the process it functions as operation (Vyāpāra) and not as instrument (Karaṇa).

The logicians say that the knowledge of invariable concomitance is the instrument of inferential cognition and parāmarṣā is operation or vyāpāra.

Vyāpāra means, that which is produced by 'x' and which produces 'y' which is also produced by 'x'. An example will help make the concept of operation clear.

An axe is the instrument for cutting. But without the utpatana-rising and nipatan-falling of the axe the result namely cutting will not take place. It means cutting is the result of an axe but it takes place through the action of the axe. This action of the axe is called vyāpāra or operation. Cutting is produced by action and action itself is produced by axe. Thus, cutting has taken place by an axe but through the action of axe which is produced by the axe only. Similarly the knowledge of invariable-concomitance is the cause of inferential-cognition but inferential-cognition
takes place through *parāmarśa*. That is, the invariable concomitance is the instrument of inferential cognition because it possesses *vyāpāra* namely *parāmarśa*.

However, there is controversy between the new school of *Nyāya* and old school of *Nyāya* - regarding the function of *parāmarśa*. According to old-school, *parāmarśa* itself is the instrument of inferential-cognition, because the result namely inferential-cognition immediately follows after *parāmarśa*. They define *karaṇa* as 'a cause which is immediately followed by the result'. Thus the result namely inferential-cognition immediately followed by the knowledge of *parāmarśa*, therefore, the knowledge of *parāmarśa* is *karaṇa* or instrument itself.

This view is not accepted by New-logicians. They argue that if the knowledge of *parāmarśa* is accepted as the instrument of inferential cognition there arises a difficulty of contradiction (*Vyabhicāra*). Because, the knowledge of *parāmarśa* arises from the perception of probans which exists in the present time. If this is accepted, then there will not arise inferential - cognition from the smoke which was in the past time and which will be in the future time. For example, we do say 'this sacrificial place was possessed of fire because it was possessed of smoke' or 'This sacrificial-place will be possessed of fire, because it will be possessed of
smoke.' But, if the knowledge of inferential-cognition is accepted as
instrument then the above said problem will be removed and therefore, the
knowledge of $par\text{ā}ma\text{rśa}$ is operation and the knowledge of invariable-
concomitance is the instrument.

One point is to be mentioned here, that in *tarka-samgrah ed.* by
Athlye-Bodas it is mentioned that according to old *Nyāya* view the
knowledge of $par\text{ā}ma\text{rśa}$ is operation and according to New-*Nyāya-view
$par\text{ā}ma\text{rśa}$ is the instrument.\(^{11}\) Barlingay also states some view in his
book namely 'A modern introduction to logic' published by 'National
Publishing house, Delhi.'\(^{12}\) But the fact is otherwise. In the *Kiranavali*, the
commentary on *Nyāya-Siddhānta-Muktavali* it is mentioned clearly that
"According to old-logicians knowledge of inferential-cognition is not
instrument, but the object of knowledge of invariable-concomitance i.e.
smoke etc. is the instrument. But according to new-logicians the
knowledge of invariable concomitance is the instrument of inferential-
cognition and the knowledge of $par\text{ā}ma\text{rśa}$ is operation.\(^{13n}\)

The *Mimāṁsakas* do not agree with the view of logicians.
According to them $par\text{ā}ma\text{rśa}$ is nothing but a combination of the
knowledge of invariable-concomitance and the knowledge of state of
being property of subject. Moreover, they say that through the sentence of
reason, the function of parāmarśa is already over.\textsuperscript{14} Then why one should accept one more step unnecessarily in the process of inferential cognition, because it leads to gaurava as well as the fault of punarukti. Only two knowledges namely the knowledge of invariable concomitance and the knowledge of the property of subject are sufficient. Thus, parāmarśa is not necessary.

But the logicians reply that, if the view of Mīmāṃsakas is accepted, then there will arise the inferential cognition only from the knowledge of pervadedness. i.e. only from the knowledge that 'the mountain possesses smoke' there will arise the inferential - cognition, because there is knowledge of the state of being the property of subject as the qualifier of smoke which is the delimiter of pervadedness. But nobody gets inferential cognition only from one sentence. If somebody will say that the knowledge of the state of being subject possessing the delimiter of the pervadedness having at the present time then there will arise the contingency that if one person has the knowledge of invariable concomitance and another person has the knowledge of the state of being the property of subject, there will arise inferential-cognition. But this too does not happen.
Moreover, if the objection is raised that the knowledge of the state of being the property of subject possessing the delimiter of pervadedness as a qualifier existing in that particular person is the cause of inferential-cognition of that particular person then there will arise the contingency of accepting the 'n' numbers of cause and effect-relationships,\textsuperscript{15} which leads to cumbersome-ness. Therefore, \textit{parāmarśa} is necessary because it avoids the above contingencies.

Even it involves \textit{gaurava} by positing addition step, it is not a fault, because it leads to the result.\textsuperscript{15} Thus, the knowledge of \textit{parāmarśa} is necessary according to the \textit{Naiyāyikas}.
REFERENCE

1) Ammitikaraṇaṁ Anumāṇam, Tarkasaṅgrahā, Page No.34.

2) Parāmarśa janyam jñānamanumitiḥ, Ibid

3) Vyāptiviśṭasya pakṣadharmaṭā jñānam parāmarśaḥ,
Nyāyasiddhānta Muktāvalī,
Page No.128

4) Udāharaṇāpekṣastathetyupasamḥāro na tathetivā sādhyasyopanayaḥ
Nyāya-Sūtra (1.1.38)

5) Svpratipattau vyāptismaraṇāṇantarām tathā cāyam na thatheti vā	paramarṣeṣteṣteṣāṃ udāharaṇavacanaśya ca
vyāptipratipādakavāt parāmarṣajñāne hetorupanayasya
... ...
uponayam upalakṣayati,
Nyāyavārtika-tātparya-tīkā, Nyāya Sūtra (1.1.38)

6) Saṁcaryaniyam vyāptih, Tarkasaṅgrahā,
Page No.38

7) Sandigadha sadhyavan pakṣaḥ, Ibid

8) Vyāparastu parāmarṣaḥ karaṇam vyāptidhiḥ .... Nyāya siddhānta
Muktāvalī,
Page No.128

9) Tat-janyatve Sati tat-janya janakah vyāpāraḥ, Tarkasaṅgrahā.
Page No. 35, 40
10) Phalayogavyavachhinnam Kāraṇam Kāraṇam. Tarkasanaṅgraha,

Page No. 187.

11) Ibid

12) A Modern introdunction to Indian-logic,

Page No. 12

13) Nyāya Siddhānta Muktāvalī,

Page No. 128

14) Mānameyodaya,

Page No. 64.

15) Nyāyasiddhānta- Muktāvalī,

Page No. 129,130
CHAPTER - 5
PROCESS OF INFERENTIAL-COGNITION ACCORDING TO WESTERN LOGIC
CHAPTER - 5

WESTERN - PROCESS OF INFERENCE

5.0 Western - Process of Inference:

In Western tradition of logic, logic means the study of reasoning. They define logic as follows. "Logic is the study of the methods and principles used to distinguish good reasoning from bad reasoning." That means, it is a science of reasoning. "Reasoning is a special kind of thinking in which problems are solved, in which inference takes place, that is, in which conclusion are drawn by premisses." Logic involves process of inference.

"The term 'Inference' refers to the process by which one proposition is arrived at and affirmed on the basis of one or more other propositions accepted as the starting point of the process." For example, the proposition i.e. "Socrates is mortal" is affirmed on the basis of two propositions namely (1) 'All men are mortal'; (2) 'Socrates is man'. In the instance both the propositions namely 'all men are mortal' and 'Socrates is man' are the starting point of the process and the third proposition i.e. conclusion "Socrates is mortal"
follows from both the premisses. Thus, the form of inference will be as follows:-

i) All men are mortal

ii) Socrates is man

iii) Therefore Socrates is mortal.

This standard form of inference is called syllogism and it contains three and only three propositions.

Western tradition insists on the form of inference more than material truth of it. They do not accept involvement of any mental process in the process of inference. But some modern logicians like L.S. Stebbing & F.H. Bradley accept the mental or psychological involvement in the process of inference. Stebbing in the definition of inference says that "Inference, then may be defined as a mental process in which thinker passes from the apprehension of something given, the datum, to something, the conclusion, related in a certain way to the datum accepted only because the datum has been accepted. The datum may be sense-datum complex perceptual situation or a proposition." Further he says that, 'It is not however, legitimate, to distinguish two kinds of inference - [psychological inference and logical inference]. All inference is psychological for
inference is a mental process; but validity depends upon conditions that are not psychological.\(^5\)

However, only few logicians have accepted this view.

**Kinds of inference:**

Western logicians have divided process of inference in two kinds: (i) Deductive process and (ii) Inductive process. The basis of classification is the nature of relationship between the premisses and conclusion. In all inferences it is claimed that the premisses provide evidence for the conclusion. But in deductive inferences the evidence is sufficient. That means, in a valid deductive process of inference, if premisses are true, the conclusion must be true.

i) **Deductive inference:** "Deductive inference is believed to be concerned with the conditions under which particular or instantial propositions are inferable from universal premisses.\(^6\) "In brief, in a deductive inference, process of inference is directed from universal to particular. For example.

\[
\text{All men are mortal} \\
\text{Socrates is man} \\
\text{Therefore, Socrates is mortal.}
\]
It is an example of deductive inference, because here in this example from the universal premisses namely "All men are mortal" another particular or individual premisses namely 'Socrates is mortal' is deduced.

The deductive inference is further divided into two types: i) Mediate deduction and ii) Immediate deduction.

i) Mediate deduction:- In this type of deduction conclusion follows from more than on propositions. The former example i.e. 'All men are mortal .... ' is the example of mediate deduction. Because in the example conclusion is not directly deduced from on premisses but from two premisses. Therefore, it is a form of mediate deductive inference.

ii) Immediate deduction:- In immediate deduction conclusion follows from on premisses only. For example

\[
4 + 2 = 6 \\
\therefore 2 + 4 = 6
\]

Here in the example there is no scope for one more premisses at all. The conclusion is deduced from one premisses only therefore the inference is called immediate inference.
When premisses are able to determine the truth of the conclusion, the premisses are said to imply the conclusion. Thus, if the relation between the premisses and the conclusion is that of implication, it is impossible for the conclusion to be false when premisses are true. So, in the example, "All men are mortal"; "Socrates is man"; Therefore, 'Socrates is mortal', the premisses are true and there is relation between them namely implication. Therefore, the conclusion is also true.

ii) Inductive – inference:

"Inductive logic, is conceived as dealing with those inferences which enable us to derive universal conclusions from particular or instantial premisses.7 According to the definition the example will be 'Every crow that has been observed is black, therefore, All crows are black."

Western logicians have used the term 'Induction' in two senses. "In one sense' induction' is used for that process by means of which one can apprehend a particular instance as exemplifying an abstract generalisation. And in the second sense 'Induction' means a form of reasoning in which one establishes a generalisation by showing that it holds of every instance that is said to fall under it 8."
In both the senses it is concerned with particular instances. In brief it can be said that the process of reasoning is from particular to universal.

Induction is further divided into two kinds. (A) Induction by simple enumeration and, (B) Induction by analogy.

(A) Induction by simple enumeration. This is the simplest kind of inductive inference. In this process there is simply counting of instances which have certain properties in common. For example, every observed swan is white therefore, all the swans are white, OR Smoke - 1, Smoke - 2, Smoke - 3 Smoke - n are related to fire - 1, fire - 2, fire - 3, fire - n respectively, therefore, all the smokes are related to fire. The point is to be noted here, that, all the cases counted cases have a certain property in common. Thus, induction by simple enumeration is not simply counting but it is a counting of such instances, which have a certain property in common, such as swans have property of whiteness and that of smokes have relation with fires.  

B) Induction by analogy: If induction by simple enumeration is said to be 'numbers of instances then induction' by analogy is to be said 'resemblance of instances'. For example, there are two objects
namely 'x' and 'y'. Certain properties of 'x' say $t_1$, $t_2$, $t_3$ ... are similar to the certain properties of 'y' i.e., $t_1$, $t_2$, $t_3$ etc. This analogy is called 'known positive analogy'.

Now, suppose the above given objects namely 'x' and 'y', differ in certain properties say $c_1$, $c_2$, $c_3$ ... etc. then the analogy is called 'known negative analogy'.

According to the western logicians total knowledge of an object is not possible. There are some such properties which are unknown. However, the given objects 'x' and 'y' may have similarity as well as dissimilarity in such properties, which we do not know. Such similarities in unknown properties of objects are called 'total positive analogy' and dissimilarities in unknown objects are called 'total negative analogy'. Thus, induction by analogy is divided in four kinds namely (i) known positive analogy; ii) known negative analogy; iii) total positive analogy; iv) total negative analogy.

It is true, that such arguments of analogy can give certain information about the similarities or dissimilarities of objects. But, what one feels is that there is no need of such division. Because when one points out some similarities between some objects he has already counted plenty of instances. In the same manner when one
makes generalisation on the basis of simple enumeration there is consideration of similar properties. Thus, when one asserts that 'all crows are black', or 'all swans are white', there is counting of many of 'crows' and 'swans' which have certain properties in common. Hence, the process that 'all crows are black' involves both the processes of induction and in the same way other instances will also involve both the processes. Therefore, only one simple kind of induction namely induction by simple enumeration is sufficient.

It is stated before that valid deductive arguments demonstrate necessary relations between propositions. If their premisses are true then conclusion must be true. Through deduction one can decide the validity of inference, but can not decide whether premisses and conclusions are true or false. The truth of propositions of syllogism can be decided through inductive method. Because, in this method, if some members of a class are true, then the whole class is true. So if swan 1, 2, 3, 4 are really white then the whole class of swans is white. Thus, to decide the material truth of inference, inductive method is necessary.
5.1 Aristotle (384-322 B.C.)

At the time of Socrates the philosophers namely sophists were using the dialectic method for the searching of reality. Plato has also followed the same method. But 'Aristotle' does not use the dialectic method. He felt that the method is not a scientific method which can be used for the search of reality. And thinking thus, he found out a new system of logic came in existence which is the basis of all sciences.

However, the name 'logic' is not used by 'Aristotle' for the science. He uses the word for it 'Analytics'.

The word 'Analytics' means the analysis of process of thinking. To demonstrate that, whenever a person thinks, how his thinking develops step by step, is the main task of 'Analytics'. The form of this analysis is called syllogism.

Aristotle himself defines the 'Analytics' as 'the analysis of reasoning into figures of syllogism'. But some scholars think that 'Analytics means analysis of the syllogism into propositions and of the propositions into terms.' Thus, it can be said here that Aristotle is "Father of formal-logic.".
Formal logic means nothing but science of deductive proof which involves structural form namely syllogism. In this proof "if premisses are true, then the conclusion must be true."

Aristotle defines syllogism as follows: "A syllogism is a discourse in which, certain things being stated, something other than what is stated follows of necessity from their being so. I mean by the last phrase that they produce the consequence, and by this, that no further term is required from without in order to make the consequence necessary." Some scholars interpret the definition as follows: "In accordance with this definition it can be said that a syllogism is a form of implication in which two propositions jointly imply a third. The two premisses constitute a compound implicates and the conclusion forms implicate."

A syllogism contains two premisses. "A premisses then is a sentence affirming or denying one thing of another. This is either universal or particular or indefinite." The conclusion follows from the two premisses. For example:

"All men are mortal,
Socrates is man.
Therefore Socrates is mortal."
In this ideal form of syllogism (because in this example premisses provide sufficient evidence for the conclusion. And no outside evidence is necessary). From the two premisses namely 'All men are mortal' and 'Socrates is man' the conclusion i.e., 'therefore Socrates is mortal' follows necessarily.

In the structure the premisses contain three terms i.e., (i) Men; (ii) Mortal and (iii) Socrates. Thus, it can be said that a syllogism is a form of reasoning which contains three propositions having three and only three terms.

This the form of inference according to Aristotle. We have already discussed premisses, terms and the figures and moods of syllogism in the Chapter III.

5.2. Bertrand Russell (1872 to 1970)

Russell accepts like traditional view, two types of inference. But according to him only deductive inference can be called as inference where as inductive inference is only a different form of deductive inference. He says "I may as well say at once that I don’t distinguish between inference and deduction. What is called induction appears to me to be either disguised deduction or a mere method of making plausible guesses."^15
He does not accept any mental involvement in the process of inference. According to him formal validity of a syllogism is more important than its material truth. It is very difficult to decide that the proposition of inductive inference is always true or it will not be contradicted by any other proposition. Though hundreds of examples are observed and all the time both the relate of observed examples are related with each other then also there is possibility, where both the relate may not be related. In this matter he took a role of a skeptic.

Russell thinks that in deductive process there must be some relations, in virtue of which deduction is possible. According to him that all that is necessary for inference is the logical condition of a relation of implication between two propositions. He says that "Now in order that one proposition may be inferred from another, it is necessary that two should have that relation which makes the one a consequence of the other. When a proposition 'q' is consequence of proposition 'p', we say that 'p' implies 'q'. Thus deduction depends upon the relation of implication, and every deductive system must contain among its premisses as many of the properties of implication are necessary to legitimate the ordinary procedure of deduction. It will certainly be agreed that in order that 'q' can be deduced from 'p';
there must be such a relation between them that 'q' is a consequence of 'p'. The relation usually has been called 'implication'."

In *Navya-Nyāya* tradition of Indian logic, inference is based upon the relation of invariable concomitance. It is a relation between two terms namely reason (probans) and probandum, but the relation proposed by Russell is between two propositions and not between two terms. Russell says that 'implication' is undefinable. But concept of the relation of implication and that of invariable concomitance seems to be same. However, the relation of invariable concomitance is defined and not that of implication.

Russell points out two kinds of implication—-one is formal implication and another is material-implication. The only difference he makes is one is namely material implication is subordinate implication and principle implication is formal.

**WESTERN LOGIC**

**PROCESS OF INference**

- **EXAMPLE**
  - **ALL MEN ARE MORTAL**
  - **MAJOR PREMISIS**

- **REASON**
  - **SOCRATES IS MAN**
  - **MINOR PREMISIS**

- **CONCLUSION**
  - **SOCRATES IS MORTAL**
  - **CONCLUSION**
In the very beginning Stebbing says that, "Inference is undoubtedly a mental process. If, therefore, our conception of logic were such as to restrict logic to the theory of prepositional forms, we should no more consider the nature of inference than the mathematician needs to consider the psychological processes whereby a student comes to apprehend a mathematical theorem. We have, however, conceived logic more widely. We recognize that the systematic investigation of the conditions of valid thinking forms of part of logic. Hence, the logician is concerned with logic."
9) Ibid.

10) Ibid.

11) Ibid.

12) Prior Analytics. 47a f.

13) Ibid. 24b, 18.

14) A modern introduction to logic. Page No. 81.

18) Principles of Mathematics. Page No. 11

(Foot note, by Russell himself).

16) Ibid. (Page No. 33).


Part VI, Ch. II

Ibid, ii) Part III; Ch. III

Page No. 199, 200

18) A modern Introduction. Page No. 221 (Quotation given by author from 'Principles of Mathematics').


Ibid. Page No. 33 & 37
CHAPTER - 6

COMPARISON OF BOTH

THE SYSTEMS
6.0 Comparison

The *Navya-Nyāya* system accepts five parts of the process of inference. The five parts are 1) *Pratijñā* - assertion; 2) *Hetu* - reason; 3) *Udāharana* - the statement of example which demonstrates invariable-concomitance; 4) *Upanaya* or *parāmarśa* - confirmatory cognition and 5) *Nigamana* - conclusion.

Whereas the *Mīmāṁsā* system accepts only three parts of the process of inferential-cognition namely 1) *Pratijñā* - assertion; 2) *Hetu* - reason 3) *Udāharana* - the sentence of invariable - concomitance with example.

The *Navya-Nyāya* system requires all the five sentences and so the question of their order is defined, but the *Mīmāṁsā* system is opines that the order of the parts of the process is flexible. It may start from *pratijñā* or from *udāharana*. Thus, the form of inference will be as follows, as per the first option.
A) i) Assertion (*Pratijñā*):- Mountain possesses fire.

ii) Reason (*Hetu*):- Because of smoke.

iii) *Udāharana* (invariable - relationship):- Where there is smoke there is fire, as in the kitchen etc.

The form as per the second option will be as follows :

B) i) Invariable - concomitance (*udāharana*):- Where there is smoke there is fire.

ii) Reason or *Hetu*: The mountain possesses smoke.

iii) Conclusion or *Nigamana* - (Therefore), the mountain possesses fire.

Both the schools of *Mīmāṃsā* are of the same opinion about the flexibility of the forms of the process of inference.

Both the systems namely *Nātya-Nyāya* and *Mīmāṃsā* are almost of the same opinion about the nature of the process inferential-cognition. They have difference of opinion only in the case of *parāmarśa* i.e. - the fourth step in the process according to the *Nyāya*-system. The *Nyāya*-system accepts *parāmarśa* as *vyāpāra* but the *Mīmāṃsā* says that *parāmarśa* is nothing but merely repetition of the sentence of reason only. Moreover, it is a combination of two distinct knowledges namely, i)
knowledge of invariable - concomitance; and ii) that of the property of subject. Hence, if from these two knowledges namely the knowledge of invariable concomitance and the knowledge of the property of subject the inferential - cognition arises then one need not accept the third knowledge namely parāmarśa unnecessarily. Further, the purpose of the sentence of the conclusion is served by the assertion and that of the parāmarśa is served by the reason. Thus, the repetition of the same sentences is unnecessary because it leads to logical-heaviness. Therefore, three sentences are sufficient for the inferential-cognition.

Nyāyāyikas answer that the knowledge of parāmarśa is necessary because it reduces postulation of many cause and effect-relationships.

The process of inferential - cognition according to Western-logic is nearer to the process of inferential - cognition according to the Mīmāṁsā system, than the Nyāya -system. Because like the Mīmāṁsā system, Western-logicians also accept three parts of the process of inferential-cognition. According to them from the two premisses of the syllogism (the form of inference) the conclusion follows necessarily. For example - i) "All men are mortal" and ii) "Socrates is man". From these two premisses the conclusion i.e. iii) Therefore, Socrates is mortal' follows necessarily.
Also the Western logicians accept three terms of the process as \textit{Naiyāyikas} and \textit{Mīmāṃsakas} accept. The three terms according to Western logic are -

i) Major term; ii) Middle-term and iii) Minor-term. Similarly both the systems namely \textit{Navya - Nyāya} and \textit{Mīmāṃsā} accept three terms only, namely, i) \textit{Sādhyā} or probandum; ii) \textit{Hetu} - probans; and iii) \textit{Pakṣa} - Subject, which can be rendered in the Western terminology as, i) Major term; ii) Middle term; and iii) Minor term, respectively.

It is very interesting to note that both the systems namely \textit{Mīmāṃsā} and Western logic - which developed in different traditions hold closer views about the process of inference. Both of them maintain that syllogism must have three and only three propositions and three terms only. Thus, the form of inference in one system is comparable to that of another system. As stated before, \textit{Mīmāṃsā} system is flexible with regard to the order of the propositions.

The second form of the inference in the \textit{Mīmāṃsā} is comparable to the Western from of syllogism. For example - The \textit{Mīmāṃsakas} will say -

\begin{enumerate}
  \item \textit{Where there is fire there is smoke}
  \item \textit{The mountain possesses smoke.}
\end{enumerate}
iii) Therefore, the mountain possesses fire.

The Western-tradition will say -

i) All the cases of fire are all the cases of smoke.

ii) The mountain is such case of smoke.

iii) Therefore, the mountain is the case of fire.

To this extent comparison goes very well. But there is a basic difference between these two traditions. While the Western logicians give stress on the form of the sentence, the Indian traditions give stress on the actual fact or reality. Let us consider the following example.

i) All substances are cold.

ii) Fire is a substance.

iii) Therefore, fire is cold.

Indian traditions will never accept the example as the example of a valid inference. According to them it is a logical-fallacy and thus, the inference is unable to give rise to any type of true knowledge. But Western logicians will say that the syllogism is valid but it is materially false. This is the basic difference between the two traditions.
However, the *Nyāya* system maintains that the syllogism must have five propositions and three terms only. On this point the *Nyāya* - system differs from the *Mīmāṁsā* system and from the Western-logical-system.

6.1 Conclusion

Thus, from the above studies what one feels that *parāmarśa* is a necessary step in the process of inferential-cognition.

*Mīmāṁsakas* refute the concept of *parāmarśa* because they think that from the knowledge of invariable - concomitance and the knowledge of state of being the property of the subject, there arises the inferential-cognition. For that one additional qualified knowledge is not necessary. They argue further that the knowledge of the property of subject as possessing the delimiter of pervadedness is enough for the inferential cognition because such knowledge is necessary for the knowledge of *parāmarśa* also.

But if this view is accepted then there arises many problems.

Even without the knowledge of the delimiter of the pervadedness there can arise inferential-cognition, through the knowledge that this is pervaded by probandum (fire). Also there is *lāghava* in accepting the knowledge of the state of being the property of subject and as possessing
the invariable concomitance as the cause of inferential cognition, instead of accepting the knowledge of state being the property of subject as possessing the delimiter of pervadedness. Moreover, there will arise another problem namely, only from one sentence 'The mountain has smoke' there will arise the inferential-cognition because the knowledge 'the mountain possesses smoke' is a knowledge which contains the delimiter of the state of being pervaded. But such cognition never arises. Moreover, there will arise further problem. One will have to add temporal factor too to avoid unwanted consequence. Similarly, if the proposal of the Mīmāṃsakas accepted then a funny situation will arise. One person will have vyāptijñāna and another person will have the knowledge of sādhyā.

In order to avoid this situation if someone adds' one who will have vyāptijñāna and paksadharmatijñāna will alone have the knowledge of sādhyā. If this is the form of cause and effect relationship, there will have to 'n' numbers of cause-and-effect relationships. Therefore, Naiyāyikas say that one should accept a qualified cognition i.e. parāmarśā.

The parāmarśā will arise in the person who infers through the relationship of inference and the same relationship the effect namely, the knowledge of sādhyā will arise. This is how there will be symetry. If
somebody says that to accept a qualified cognition is logically cumbersome the Naiyāyikas answer will be 'it does not disturb because what is important is the result.' As long as that is not disturbed even if there is logical cumbersome, it is not a fault.

On the other hand if Māṁālaśa theory of inference is accepted then there will arise the contingency that from the knowledge that 'smoke is pervaded by fire' and from the knowledge that 'the mountain possesses light there will arise the knowledge of fire. Hence, there proposal, cannot be accepted.

Therefore, the logical economy demands that there should be a qualified cognition in the form of parāmarśa to account for all cases of inferential cognition.

D.M. Datta and S.C. Chatterjee inform us that in western logic the method informed by Bradley is similar to the concept of Nyāya parāmarśa of Navya-Nyāya. Chatterjee says that "According to Bradley, an inference is always an ideal construction resulting in the perception of a new condition. The premisses of inference are the data, and process of inference consists in joining them into a whole by an ideal construction resulting in the perception of a new condition. These premisses of
inference are the data, and process of inference consists in joining them into a whole by an ideal construction.”^4

Bradley himself says that, “It is inference where the preparation is ideal, where the rearrangement which displays the unknown fact is an operation in our heads. To see and, if it pleases us, also to show a new relation of elements in a logical construction, is demonstration in the sense of reasoning.”

The premisses are thus so far two or more judgements, and the operation on these data will consist in joining them into a whole. We must fasten them together, so that they cease to be several and are one construction, one individual whole. Thus instead of A-B, B-C we must have A-B-C.  

The concept of joining the premisses is closer to the *Nayya- Nyāya* concept of *parāmarśa* as *parāmarśa* is also a combination of two different knowledges namely the knowledge of invariable concomitance and the knowledge of the state of being the property of subject.

Moreover, in the *parārthānumāna*, the sentence of *upanaya* is absolutely necessary because there is no other way to confirm the association of the pervaded on the subject. Thus, it is necessary to accept *parāmarśa* in the process of an inferential cognition.
REFERENCE

1.a) Tasmātryavayavam brūmah ....

   Udāharaṇa paryantam yadvodāharaṇadikam ||

   Mānameyodaya Page No.64.

1.b) Drṣṭāntahetuvacanayośca prayoge

   kramaniyamo nādaraṇīyaḥ, Prakaraṇa-paṅcikā, Page No.223.

2) Mānameyodaya, Page No.64.

