CHAPTER-III

Inference as a Source of knowledge

Knowledge that comes after perception is inferential or relational and it is called inference. Inference is called anumāna because it is a kind of knowledge (māna) which we get after some other knowledge or perception. Inference is a process of reasoning in which we know some unperceived character of a thing through the medium of a mark which is found present in the thing and is known to be universally related to that character. The word ‘anumāna’ literally means the cognition, which follows from other knowledge. Here the prefix ‘anu’ means ‘after’ and ‘māna’ means ‘knowledge’. For example, one can infer the existence of the fire, after perceiving the smoke which has got an uninterrupted connection with the surface of the mountain. It is a past or indirect (paroksa) and takes place through the medium of some mark which is called the “Hetu” and bears the relation of invariable concomitance with the observed feature. It is defined as that cognition which presupposes some other cognition. It is mediate, indirect and arises through a ‘mark’ the ‘middle term’ (Ling or Hetu) which is invariably connected with the ‘major term’ (Sadhya).

Anumana, etymologically means ‘secondary proof’. The data for inference are derived from perception and verbal testimony. Vyapti and Paksadharmata are the two main groups of inference. Fire is inferred on the hill, where smoke is perceived in it is Paksadharmata and when universal relation between fire and smoke is known, it is called Vyāpti. We can’t know some unperceived character of a thing through the process of reasoning which is found present in the thing and is known to be universally related to that character. The object of inference is some fact which follows from other fact because of a universal relation between the two. Knowledge is first received through perception (pratyakṣa) or comparison (upamāna), or words of sacred authority, and it is only when knowledge is thus received that another knowledge is inferred from it. It is source of our knowing through the medium of a sign or mark that a thing has a certain character. It is the knowledge of an object due to a previous knowledge of some sign or mark.
It depends upon the perception of a mark and the recollection of invariable concomitance. The term *anumāna* is derived from 'anu' followed by the root 'mana' with the suffix lyut, mana means an apprehension or a way of apprehension of an object and the prefix 'anu' denotes after. So the result of such knowledge is called *anumiti*, which is the knowledge of an object due to a previous knowledge of some mark having the universal relation with the *Sādhya* and being present in the *Pakṣa* and *anumititva* is a kind of genus or universal. We infer that there is fire on the hill, because we see that there is smoke on the hill and know that smoke is always accompanied by fire.

*Anumānam jñātasambandhasyaitkadesa daszanad ekadesantore sannikrste rthe buddhih-Mb.P.*

It is also defined as the means of knowing a thing beyond the range of the sense through its inseparable connection with another thing which lies within the range. All the systems of Indian Philosophy except Carvaka agree in holding that *anumana* is a process of arriving at truth not by direct observation but by means of the knowledge of *Vyapti*. It depends upon the perception of a mark and the recollection of invariable concomitance of the reason.

*Vyapaś darśanād asannikaretartha Jñanam anumānam.*

From the definition of Inference, it will appear that there must be three propositions and three terms in any inference. In inference one, arrives at the knowledge of some unperceived character of an object.

There is first, the knowledge of what is called the *Linga* on mark in relation to the *Pakṣa* or minor term of inference as, when I see that the hill is smoky and infer that it is fiery. Secondly, inference requires the knowledge of *Vyapti* as a universal relation between the *Linga* and the *Sadhya* as the middle and major terms respectively. This knowledge of the *Linga* as middle term is always related to the *Sadhya* which results from the previous experience of their relation to each other. Thirdly, we have the inferential knowledge (*anumiti*) as resulting from the previous knowledge of the *Linga* and that of its universal relation (*Vyapti*) with the *Sadhya*. The
inferential cognition (anumiti) is a proposition which follows from the first two propositions and so corresponds to the conclusion of the syllogism.

All the six orthodox schools of Indian philosophy told that anumana reveals a distinct object and is an independent source of knowledge. ‘Anumāna’ in Sanskrit means two things viz, inferential cognition (anumiti karana) or Liyaprimas. It is frequently used in both these senses. However the Naiyayikas prefer to use it in the latter sense and hold that inference is the special cause of inferential cognition. Anumana has been defined in the Nyāya system as the knowledge of an object not by direct observation but by means of the knowledge of a Linga or sign and that of its universal relation (Vyāpti) with inferential object. Thus we infer the existence of unperceived fire in a hill when we observe smoke in it and remember that smoke is always related to fire. So it is mental judgment which arises after something has been heard or observed through certain steps of reasoning based on the observed things. Therefore, Anumāna as pramana is the source of our knowing through the medium of a sign or mark or as a certain character. It leads to the knowledge of a thing as possessing a character, say fire because of its having another character, smoke, which we apprehend and which we know to be always connected with it. Anumiti does not arise without the coexistence of the Hetu and Sadhya. This relation between the two had already been seen in many places. It is the detailed process of knowing something not by means of contact between the senses and the objects of the world and not by observation but rather through the medium of a sign or Linga that is invariably related to it. Anumāna in a general sense means the cognition coming into being after perception or Parāmasa. It is the process of reaching the conclusion that is drawn from it, and not by the direct apprehension but by universal relation with the inferred object.

The object of inference is some fact which follows from other fact because of a universal relation between the two but is indicated by what is perceived in it. It leads to the knowledge of a thing as a character, say, fire, because of its having another character, smoke which we apprehend and which is known to be always connected with it. Inference is the proof for anumana and it is the most valuable contribution of Nyaya in this context.
According to Nyaya philosophy the second source of valid knowledge is inference. Future Vatsyana described Anumana as the process by which from the perceived we get at the knowledge of an associated unperceived. Bhasarvajna in his Nyayasara defines inference as the means of knowing a thing beyond the range of the sense through its” inseperable connection (Samavaya Sambandha_ with another thing” which lies within their range. Dr. Arbind K Jha defined it is Nyaya philosophy Epitemology and education Anumana has been defined in the Nyaya system as the knowledge of an object, not by direct observation but by means of knowledge of a Linga or sign and that of its universal relation. Inference works with regard to neither what is absolutely unknown nor what is definitely known, it relates to objects that are doubtful i.e. objects which have reason to believe in, but which are not yet perceived facts. Anumana has been defined in the Nyaya system as the knowledge of an object not by direct observation but by means of the knowledge of a Linga or sign and that of its universal relation. Kanada, founder of the vaisesika system holds that anumana is the knowledge of Prabandum derived from the knowledge of the probans. Prasastapada defines inference as the knowledge which results from the appreciation of a sign. The term ‘sign’ is further explained as that which is related with that which is inferred as is well known to have co presence and co absence with the Latter.

The Samkhya Karika defines anumana as the knowledge derived from sign and signate. The definition of anumana is found in the yogya Bhasya of Vyasa. Vaysa defines inference as modification of citta brought about by the relation which exists in objects of heterogeneous nature and ascertains chiefly the generic nature of an object. The definition of inference in Samkhya yoga means the modification of citta brought about by invariable concomitance. Gautama does not define Anumana. He defines it as a specific form of knowledge preceded by perception. He simply holds that inference presupposes perception. It is of three types.

(atha tatpūtrvakam trividha manumanam pūrvava ccheśavat sāmanyatodrstm ca (N.S.I.I.5).
The inferred assertion should not him such that it is invalidated by direct perception called *pratyaksa* or the testimony of the *sastra* called *Abadhita-visayatva*. The *Linga* should not him such that by it an inference in the opposite way could be possible say *Asat-pratipaksa*. Vatsyayāna, the author of Nyāyabhāṣya, well known exposition on Gautama’s *Nyaya Sutra*, deals with the etymological aspect of the term *anumāna* and states that it is the knowledge of *Lingi* arising after the knowledge of *Ling*. In *anumana* we arrive at the knowledge of an object through the medium of two acts of knowledge or proposition. According to Vatsyayana, it is the knowledge of an object due to a previous knowledge of some sign. Same view has been expressed by Jayanta and Gagesa. Vatsyayana holds that no inference can follow in the absence of perception. Only when the observer has perceived fire and smoke to be related to each other is he able to infer the existence of the fire. On the next occasion he perceives smoke.

The knowledge of smoke so conditioned leads to *Anumiti* when qualified by knowledge of the *Vyāpti*. For instance it leads us to knowledge concerning things we are not immediately acquainted with, but the things in question must be such that we can immediately be acquainted with them. In inference the knowledge of the *Sādhya* or major terms related to the *Pakṣa* or minor term depends on the knowledge of *Vyapti* between the middle and major terms. It is on ground of *Vyapti* or a universal relation that the middle term leads to the knowledge of the inferred object.

According to Prabhakara the word *jañātasambandhasya* qualifies the term *ekadeśa* in the compound *ekadeśadarsanāt* and refers to that those invariable concomitance with another is known. Kumarila Bhatta explains the compound *jñatasambandhasya* in four alternative ways, viz.

1. Referring to a person who knows the invariable relation between two thing, e.g. smoke and fire.

2. As referring to the substratum where the relationship, e.g. of smoke and fire is apprehended.

3. As referring simply to a known relationship as referring to both the *Linga* and lignin together.
4. Smoke and fire are parts (Ekādeśa) of a logical while.

Sabara whose commentary Bhasya on Jaimini’s Mimamsa-Sutra is the earliest extant commentary, on that basis Mimamsa text explains, that when a certain fixed or permanent relation has been known to exist between two different things, so that when we perceive any of these things, we have an idea of the other, the resulting knowledge is inferential. On the basis of Sabara’s definition, Kumarila extends and makes more inclusive the scope of inferential cognition, when he tries to show that inference is possible only when he notices that in a large number of cases two things. (e.g., smoke and fire) co exists in a third thing (for example, a kitchen) in somewhat independent relation to the exclusion of every other eliminable condition or factor.

Śabara defines inference as the knowledge of an unperceived object, which is not present to a sense organ, from the perception of and their object, when a uniform relation has been known to subsist between them. Dr. B.N. Seal has described inference in the following words, “Anumana is the process of ascertaining, not by perception or direct observation but through the instrumentality or medium of a mark, that a thing possesses a certain character”. According to Mathurānāth Tarakavāgisa, the object of knowledge in the form of consideration (Parāmaśa) cannot be the special cause of attaining an inferential knowledge. For this if it is considered as a special cause (karana). The inferential knowledge can never be attained from the past and future signs (Linga). Anumāna is defined in Manikana in this way:

Vyāptivishisto pakṣa dharmata jñātajanyam jñānamanumit.

For instance, given mountain has fire; because of smoke; whatever has smoke, has fire. As regards inferential knowledge, it is obviously the knowledge of something which does not present itself through the intermediary of any sense organ. Dharmakīrti accepts that it is the cognition of the inferable from the sign having a threefold character. The three characteristics of a sign are 1. Presence in the Pakṣa. 2. Absence in the Pakṣa, and 3. Absence from the Vipakṣa.
The Samkhya, the Yoga the Mimāṃsā and the Vedanta systems regard inference as the knowledge of one term of a relation, which is not perceived through the knowledge of the other term perceived it is explicitly understood as invariably related to the first term.

Vedanta states that inference, is made by the notion of concomitance (Vyāptijñāna) between two things, acting through specific past impression (saññīkara). The notion of concomitance is generated by the Perception of two things together, when no case of the failure of concomitance is known. (Vaybhicara jñāna) regarding the subject.

Purva Mimamsa regards that Anumana or inferential knowledge presents an object which has no contact with the sensory organs and which is one probandum of the two (related objects) and this knowledge arises on the basis of the perception of the other (probens) when their relation is known. In other words, it is the knowledge of something which may be said to be absent. But then the question naturally arises as to how an absent object may at all be brought to anyone’s awareness. The answer should be, and as given by philosophers and perhaps, even laymen’s, indeed, is that this is possible by virtue of the consideration (Parāmarśa) of a mark or sign towards, the object concerned. Even so, the question still remains as to how one thing can serve as a sign of or a pointer towards, another.

Vyāpti and Pakṣadharmata are the grounds of inference. Pakṣadharmata is usually a judgment of perception. Smoke is perceived on the hill and fire is inferred. But the inference takes place only when the universal relation between smoke and fire is already known. Thus relation called Vyapti, between the middle and major terms is a more important ground of inference through the conclusion that is drawn does not follow exclusively from Vyapti but from Vyapti and Pakṣadharmātā jointly. Inferential knowledge, therefore is neither direct or nor immediate. For instance, on seeing a swollen river, we infer the occurrence of past rain, or, on perceiving that color and fragrance (generally) co exist in a flower, we infer that the knowledge of the color in another flower must be associated with or followed by the knowledge of its fragrance, or, on perceiving the presence of smoke on a hill, we infer the presence of fire on that hill on the strength of our past experience of that invariable association” (Vyapti) of smoke and fire.
The Indian thinkers, who regard inference to be a means of knowledge, unanimously accept the principle of invariable and the way of its ascertainment. Kumārila states, Vyēpti is not a simple assertive judgment but a necessary judgment. Jaya Tirtha in his Nyāya Sudhā defines “inference” as a flawless reasoning from a mark to a certain conclusion on the basis of an invariable relation that subsists between them. This invariable relation between the reason (Hetu) and the probandum (Sādhyā) is the essential determinate of inference which distinguishes it from other forms of cognition, viz, perception and testimony. Vyēpti is an important factor for attaining inferential knowledge. There is diversity of opinion among the scholars about Vyēpti. The nature of an inference cannot be known without the knowledge of the nature of Vyēpti or invariable concomitance. Vyēpti is the uniform, unconditioned or natural relation between reason and predicate. The reason must be known to be invariably concomitant with the predicate in Vyēpti. The universal relation of the reason with the predicate is the Logical ground of inference. The word Vyēpti in Sanskrit is a noun formed from the root ‘Vyap’ ‘to pervade’. The consequence (e.g. fire) pervades all cases of smoke, i.e., the circle of the consequence is not smaller than the circle of smoke and encloses it, consequence is therefore called pervade (Vyaṇapaka) and the reason (e.g. smoke) as the object of this action if pervading is called the pervaded (Vyaṇapya). Thus is the case of smoke and fire, there is an unfailing relation between them and the former is called Vyaṇapya the latter Vyaṇapaka. It implies definite correlation between two facts of which the prevader is present. For example smoke is the pervaded and fire is prevader

“Parvato Vahniman dhuna Vattvat”

No inference is possible unless there is an invariable concomitance (Vyēpti) between the mark and the character inferred Vyēpti between the middle and major terms means generally a relation of Vyēpti of co-existence (Sachacarya) between the two, e.g. wherever there is smoke, there is fire. The Previous knowledge is the knowledge of the Linga or mark as having a universal relation with the Sadhya or major term and as being present in the Paksa or minor term.

Vyēpti Visistapaksadharmatajnana Janyam-TCM, IJ P.L (3)
Generally speaking, inference may be described as the process of reasoning which enables us to pass from claims of present perceptions or non perceptions to claims of the existence or non existence of things not perceived at the time. That which is perceived is a mark that certain thing, not perceived now, exists.\textsuperscript{14} It is known by repeated observation of their co-presence and co-absence.\textit{Visamavyapti}: It is a universal proposition of which only the subject is distributed, i.e., taken in its entire extension. A\textit{Samavyapti} on the other hand, is a universal proposition which distributes both the subject and the predicate. They would thus correspond respectively to the universal affirmative and universal negative proposition.\textit{Vyapti} between two concepts of equal extension is called \textit{Samavyapti} and \textit{Vyapti} between two concepts of unequal extension is called \textit{Visamavyapti}. Smoke and fire, fed by wet fuel have equal extension but smoke and fire have unequal existence. From\textit{Samavyapti} between cause and effect, substance and attribute, we may infer the cause from the effect, the substance from the attribute and vice versa. Though the Indian thinkers who regard inference to be a means of knowledge unanimously accept the principle of invariable concomitance (\textit{Vyapti}) as an indispensable condition for inference, yet they differ with regard to its function, denotation, nature and the ways of its ascertainment.

\textit{Vyapti}, literally means the state of pervasion, i.e. one of the facts pervades (\textit{Vyapaka}) and the other is pervaded (\textit{Vyapya}). A fact is said to pervade another when it always accompanies the other, contra wise a fact is said to be pervaded by another when it is always accompanied by the other. Same view was held by 'Dr. Arbind K Jha' in 'Nyaya Philosophy Epistemology and Education' as \textit{Vyapti} literally means the state of pervasion. It implies a correlation between two facts, of which one is, pervaded (\textit{Vyapya}) and the other pervades (\textit{Vyapya}). In inference, the major term (\textit{Sadhya}) is related to minor term (\textit{Paksa}) and its relation depends upon the universal relation between the major term and the middle term (\textit{Hetu}). So it is on the ground of \textit{Vyapti} that the middle term leads to the knowledge of inferred object. Gautama in his \textit{Nyaya Sutra}, Vatsyayana in his \textit{Bhasya} and Uddyotakara in his \textit{Nyaya Vartika} don’t mention \textit{Vyapti}. Though there is difference of opinion among the philosophers of different schools in respect of the definition, functions and nature of \textit{Vyapti} (i.e. invariable concomitance), all of them are of the view that inference is not possible without the proper knowledge of it and hence it has been
considered as a special cause (karana) of inference by the Logicians. The meaning of the term ‘Vyapti’ is pervasion which is related to two objects. As for example, pervasion or invariable concomitance is connected with smoke and fire as each and every case of smoke is pervaded by fire. The smoke is known as pervaded (Vyapya) as it exists in comparatively less places and the fire is known as pervader (Vyapaka) due to its existence in more places. The invariable concomitance is related to the pervaded and the pervaded that are known as probans and probandum respectively is an inference.\textsuperscript{15}

Gautama’s regards that inference depends on perception when it asserts that invariable concomitance is known by perception. Vatsyayana regards Vyapti as the logical ground of inference\textsuperscript{16}. According to Jayanta, first there is the perception of a mark then there is the recollection of Vyapti, and then there is the knowledge of the presence of the reason pervaded by the predicate in the subject (Paramarsa). Then there is the inference of the predicate in the subject. The knowledge of Paramarsa is directly the cause of inference; on the other hand the perception of Vyapti is its causal through its recollection. The knowledge of Vyapti is the logical ground of inference, while that of Paramarsa is the psychological inference. Gautama in his Nyaya Sutra, Vatsyayana in his Bhasya and Uddyotakara in his Nyaya Vartika don’t mention Vyapti.

Vyapti is an important part in the process of inference. Naiyayikas regards Vyapti as a relation between Hetu and Sadhya. They hold that Vyapti means co-presence, co-absence, co-presence-absence of Hetu and Sadhya. The case of relation involving condition can be explained. Thus: one infers smoke from fire. But it is observed that fire is not naturally related to smoke. If fire would have been invariably associated with smoke, it would always be accompanied or associated with smoke, and would never have been found without smoke. But in some case like iron ball, fire exists without smoke. Therefore, the association of fire with smoke involves condition. The fire requires wet fuel in addition to itself to give rise to smoke. Thus, fire does not accompany the smoke naturally. On the contrary, it involves further condition of wet fuel. The relation of co-existence must be independent of all conditions.\textsuperscript{17} The Nyaya method of establishing Vyapti brings out the importance of class-essence or universal for induction. It
shows how the validity of a generalization from the particulars of experience depends ultimately
on the discovery of certain common essence or universal characters of particular things.
Prataskipada clearly recognizes Vyapti or invariable concomitance of the probans with the
probandum. Vacaspati, Jayanta, Udayana and Varadaraja define Vyapti as a uniform (niyata),
unconditioned (anaupadhika) or natural (svabhavika) relation between the reason and the
predicate. There are two kinds of Vyapti, Viz, anvayavyapti and vyatirekavyapti. The former is
invariable concomitance of the presence of the reason with the presence of the predicate. The
latter is the invariable concomitance of the absence of the predicate with the absence of the
reason.

Thus Vyapti (the invariable association of middle and major terms) serves as the basis of Nyaya
syllogism. Vacaspati Misra and Udayana define Vyapti as an unconditional relation. Invariable
co-existence of smoke with fire is not due to any adventitious condition but fire co-exists with
smoke only when there is an extra condition namely, the presence of wet fuel. Vaisesika accepts
that Vyapti is a relation between a cause and its effect, between an effect and its cause,
between two things one of which is either co-joined to the other or inherent in it, between two
things inhering in the something or between two things one of which is opposed to the other.
Udayana also defines it as general principles of non-separateness of the probans from the
probandum. It is invariable and unconditioned concomitance between them; it is a universal and
natural relation between them which is not vitiated by any condition. Variable concomitance is
conditional invariable concomitance is natural or unconditional. According to Gangesa, Vyapti
by itself is the indirect cause of inferential knowledge while Linga paramarsa or consideration of
the sign is the last cause (karana) or the chief cause (karana).\textsuperscript{18} It is the synoptic view of the fact
that the middle related to the major abides in the minor that leads to the conclusion. Inferential
act is an integral one. Kanada defines Vyapti a well known general principle (prasiddhi).
Pratastapada regards it as a general principle (vidhi, samaya) of invariable concomitance
(sahacarya) or inseparable connection (avinabhava) between the probans and the probandum
which is known by the repeated observation of their agreement in presence and agreement in
absence. Udayana also states it as a general principle of non-separateness of the probans from the
probandum. It is invariable and un-conditional concomitance between then. It is a Universal and natural relation between them, which is not vitiated by any condition.

The Samkhya Sutra defines Vyapti as invariable concomitance of properties in case of the two or one of them. Vyapti is not a different category from the co-existence of properties. It would lead to the cumbrousness of self-evident fact as it would compel to consider Vyapti as an independent category. The Yoga Bhasya differences the Vyapti into positive invariable (anvayavyapti) and negative invariable (vyatirekavyapti). Inference is said to be caused by relation who is found present in the similar cases and absent in the dissimilar cases. Vyapti is necessary relation according to Kumarila and his followers. Vyapti is not a simple assertoric judgment but a necessary judgment. Kumarila says that Vyapti is known through repeated observation when we experience smoke and fire together in a number of cases; we connect smoke in general with fire in general after eliminating their non-recurrent features such as a particular shade of color, a particular shape or size etc. It is also called the relation of co-existence (sahacharya) or the invariable relation (avinabhava samband). Vyapti is a necessary relation from this happening that must happen. The conclusion that is drawn cannot be certain unless the relation between the middle and major terms is necessary. Prabhakara recognize that the knowledge of Vyapti is gained by a single act of sense perception.

The Advaita Vedanta holds that Vyapti is derived from the uncontradicted experience of agreement present between two things. When we find that two things co-exist and that there is no exception to their relation, we may take them to be invariably related to each other.19 The Advatins establish Vyapti by means of induction by simple enumeration. When we find two things related together in certain respects and this perceived relation is never subsequently discovered to be contradicted by other instances, then our conviction that both are invariably concomited is considerably strengthened.20 Vyapti may be defined in two terms, affirmative or negative. It is the non-existence of the proban (Hetu) in all the places in which the probandum (Sadhya) does not exist. The latter definition, when fully amplified, comes to include the former. The two definitions are based on the ascertainment of Vyapti. It is ascertained affirmatively by the knowledge of the co-existence and negatively by the absence of the knowledge of contrary
instance of co-existence. Inference is the means of *anumana* knowledge. There are two forms of inference - (1) For self, and (2) For others. (*Svartha* and *Paratha*). This is a psychological classification which has in view the use or purpose which an inference serves. An inference is called *Svartha* when it aims at the knowledge of an unperceived object on the part of a man who employs that inference. In this kind of inference a man seeks only to reach the conclusion for himself by relating it to the major and minor premises. A *Parartha anumana* is illustrated when a man having inferred the existence of fire in a hill lays it down as a thesis and proves it as a conclusion flowing from the major and minor premises and their combination into a third premise. There are five propositions in *Parartha anumana* i.e., *Pratijna, Hetu, Drstanta, Upanaya, Nigamana*.

1. The proposition is the declaration of what is to be proved.

2. The *Hetu* is the means of establishing what is to be proved on the basis of similarity to a homogeneous or heterogeneous example.

3. An example is a familiar instance which, through its homogeneity or its heterogeneity to the probandum has or has not the same quality as what is to be proved (prabandum).

4. The confirmation is the form of a resume of what is to be proved on the strength of the example this is so or ‘this is not so’

5. The consultation is the resting of the proposition with reference to the *Hetu*. 
Gautama does not divide Anumana as *Svartha anumana* and *Parartha anumana* but he divides it into three types: *Purvat*, *Sesavat* and *Samanyatodrstam*. *Purvat* and *Sesavat* inferences are based on causal uniformity, while *Samanyatodrst* is based on causal uniformity. *Purvat* is related to the probandum. In this type, *anumana* effect or *karya* is inferred from the cause or *karanam* i.e. when we see clouds rising in the sky; we infer that there will be rain. Here inference relates to the future. In this inference, we infer future on behalf of past. In *'Sesavat' 'sesa'* stands for the object which belongs to the same as the probandum. In this inference which the cause is inferred from the effect, e.g. when we see that the river is full and current is swifter; we infer that there was rain. Here the *Sesavat* inference relates to the past. *Samanyatsodrsata* as, the inference of an unperceived object from a mark which is perceived, though the relation between them is not perceived. We infer the existence of the soul from the qualities of confection, pleasure, pain, desire, aversion and volition, which must infer in a substance the soul, is inferred as the substance in which they inhere.

Inference is of three kinds *Kevalanvaya*, *Kevalavytireki* and *Anvaya Vyatireki*. As there is no negative concomitance these probans are called *Kevalanvayas*. It is *Kevalvayin* when based on a middle term which is always positively related to the major. *Kevala-Vyatirekin* when the middle is only negatively related to the major and *anvaya-Vyatirekin* when the middle is both positively and negatively related to the major term.  

According to Samkhya, Inference is broadly divided into positive (*vita*) and negative (*a-vita*), so it is based on positive and negative concomitance. The positive is of two kinds, one based upon causal relation and the other on general similarly. Various divisions of anumana, based on principles are found is the system of Samkhya-Yoga. The *Samkhya Karika* refers to the division of *anumana* into three kinds, which according to its commentators refer to *Purvat*, *Sesavat* and *Samanyatodrst*.* In addition to the above three kinds, Aniruddha mentions other three kinds, viz. *Kevalanvayi*, *Kevalavyaeki* and *anvayatireki* raising the number of kinds of *anumana* to six. This
classification is more logical in as much as it depends on the nature of the induction by which we get the knowledge of Vyapti or the universal proposition involved in inference.

The three terms of an inference are Paksa, Sadhya and Linga which correspond respectively to the minor, major and middle terms of the syllogism in Aristotelian logic. The process of inference consists in relating the Sadhya or major term to be Paksa or minor term through the relation of the Linga or middle term to the Paksa or minor term, on the one hand and the Sadhya or major term on the other. The division of inference into Svartha and Parartha is one of the most vital topics in Indian logic. It tries to convince another man who doubts the truth of his knowledge. Then the inferential process takes different form. Though the division of anumana into Svartha and Parartha is not found in the Nyaya Sutra or Vaisesika Sutra, Pratastapada has mentioned it on the Vaisesika-Sutra. Etymologically, what is intended for oneself is Svartha anumana and what is intended for others is Parartha anumana. In the Svartha anumana, premises are known from our own experience while in Parartha anumana premises are discovered by one man and imparted to another through the medium of Language. Paratha anumana is, however, based upon Svartha anumana in the sense that one cannot convince other if he himself is not convinced. The Samkhya karika does not discuss the division of anumana. The Yuktidipika and Mathara seem to imply such a division in their discussion of inference. According to Naiyayikas, inference is of two different forms, according to the purpose it serves in Practical Life, it is Svartha or Parartha. Svartha anumana occurs when it aims at the knowledge of an unperceived object on the part of a man who employs that inference. In this kind of inference a man seeks only to reach the conclusion for himself by relating it to the major and minor premises. Advaita Vedantist admits the Nyaya distinction between the inference for one’s own sake (Svartha anumana) and inference for the sake of others. (Parartha anumana). As Long as the inferential argument is on the level of thought, it is for one’s own self and hence, there is no need for its verbal expression. But the moment there is the need to convince any other person the argument has to be verbally expressed. According to some old Naiyayikas, there are 10 members as constituent parts of an inference. These are;
(1) *Jijnasa* or the desire to know the truth or-probandum, whether the hill is on fire in all its parts or in only some;

2) *Samsaya* or doubt about the reason, whether after all that which we regard as smoke is only vapour.

3) *Sakayaprati* or the capacity of the example of warrant the conclusion, whether smoke is always a concomitant of fire, since it is not present in a red-hot iron ball. (Belief in the probability of the probandum to lead to true knowledge)

4) *Prayojna* or purpose of drawing the conclusion;

5) *Samsaya-Vyudasa* or the removal of all doubts about the relation between *Hetu* and *Sadhya*.

6) *Pratijna* or the purpose of making an inference.

7) *Hetu* or the reason.

8) *Udaharana* or the example.

9) *Upanaya* or the application of the example.

10) *Nigamana* or the final conclusion.

The above view of the syllogism are consisting of 10 parts of members (*dasavayavas*) has been criticized by Vatsayayana and others. The first five factors are unnecessary. They represented not so much the logical steps in drawing a conclusion as the psychological or epistemological conditions involved in inference. Thus the desire to know (*jijnasa*) may be taken as a condition of all knowledge by which we want to realize some end and cannot, therefore be regarded as factor of inferential reasoning. Doubt is the impetus to a desire to know the truth and is in this sense condition of knowledge. Hence, it has been held by the Naiyayikas that the syllogism consist *Pratijna, Hetu Udaharna, Upanya* and *Nigamana*. The five members of the syllogism
have been explained by the Naiyayaikas. If we take the stock example, i.e. the hill is fiery because it has smoke, their constituents could be illustrated in the following way:

(a) With a positive instance:

(1) Pratijna: The hill is fiery. (S is P)
(2) Hetu: Because it smokes. (S is M)
(3) Udararana: Whatever smokes is fiery e.g. as is the hearth. (M is P)
(4) Upanaya: So like the hearth kitchen, the hill is smoky. (S is M)
(5) Nigamana: Therefore, the hill is fiery. (S is P)

1 Pratijna: - The first members of the syllogism are called the pratijna or the proposition. It is the logical statement which is to be proved. It is the declaration of that which is to be established. It is just statement of one's position and consists in the assertion of some unperceived quality on character in relation to some object experience. The assertion may be affirmative or negative. The pratijna includes a subject Paksa and the predicate Sadhaya. It fixes the problem and the limits the inquiry Jayanath takes Paksa and pratijna as synonyms. It tells us simply what the locus of inference is and what we want to infer with respect to it. The propositions is only a suggestion or a mere probability. The proposition has the two factors of subject or what is observed, which is generally an individual or a class capable of being regarded as a single object and the predicate which is to be proved. In "The hill is fiery", the hill is the subject or the Minor term, the Paksa and fiery is the predicate or the major term, the Sadhya.

2. Hetu: - The second member of the syllogism is called the Hetu or the reason. It refers to the statement of the mark or the sign (Linga) which is being present in the subject or the minor term suggests that the latter process is a certain property predicated of it. It states the presence of the middle term called Hetu or ground, Sadhana or the means of proof, Linga, or the sign, in the minor term, it suggests that subject or minor term (hill) possesses certain property predicated of
it, e.g., because it smokes. It may thus be called the middle premise or the middle proposition of the syllogism. Gautama states that Hetu is the means for establishing Sadhya through an affirmative or negative example.

3. **Udaharana**: - The third member of the syllogism is called *Udaharana* or the example. It consists in the ascertain of a universal relation (*Vyapti*) between the major (fire) and middle (smoke) terms with reference to some opposite instances. The Hetu (smoke) or the middle term proves the presence or absence of the major in the minor only as it is connected with the minor, on the one hand and universally related to the major on the other hand. Hence the universal relation between the major (fire) and middle (smoke) terms must be duly asserted as an essential member of the syllogism. Example may be of different kinds, homogeneous or affirmative where the property to be proved (major) and the ground (middle) are present, as the kitchen and heterogeneous or negative (*vaidharmya*).

4. **Upanaya**: - The fourth member of the syllogism is called *upanaya* or the application. It consists in the application of the universal proposition with the example to the subject or the minor term of inference. While the third member of the syllogism states the universal relation between the major and minor terms, it is affirmative in the former case, as in the example, "So like the hearth kitchen, the hill is smoky ", i.e., smoky *upanaya* or the application of the universal concomitance to the present case.

5. **Nigamana**: - The fifth and the last member of the syllogism is *Nigamana* or conclusion. It is drawn from the preceding proposition. It is statement of the subject (as characterized by the probandum) as proved or domesticated, eg. the statement, the proposition reappears in the conclusion. No doubt, these five propositions of the Indian syllogism are called members' or 'avayavas'. Therefore the hill has fire. So there are five proposition in *Parartha anumana* while Mimamsa and Advaita accepts only first three members of syllogism, with a negative instance;
(1) Pratijna: The hill is fiery. (S is P)

(2) Hetu: Because it smokes (S is M)

(3) Udaharana: Whatever is not-fiery does not smokes e.g. (no not P is M)

(4) Upanaya: Unlike the lake, the hill is not non-smoky. (S is not-not-M)

(5) Nigamana; Therefore, unlike the lake the hill is not non-fiery, i.e., it is fiery. (S is P)

In Gautama’s ancient logic inference has been divided into three kinds on the basis of the distinctions of Vyapti into its kinds Purvat, Sesavat and Samanyatodrsta. It is also defined as the means of knowing a thing beyond the range of the sense through its inseparable connection with another thing which lies within the range. The Samkhya Karika refers to the division of anumana into these kinds which is propounded by Gautama in Nyaya Sutra. Vatsayana offers two alternative explanations of the nature of Purvat, etc. The commentators of Samkhya Karika follow either of the two explanations offered by Vatsayana’s explanation of nature of these varieties before discussing them on the basis of the commentaries of Samkhya Karika.

Purvat-

‘Purva’ means ‘first of proceeding of the cause’ while ‘vat’ means ‘like’. In this way purvat inference is that which like the previous. In other words one in which the effect is inferred from the cause. Future effect is anticipated on the basis on the present cause of purvat. It is the inference of effects from cause. e.g. A future rainfall is inferred from dense when we see the clouds and clouds can be perceived. Everybody infers that rain will come when we see the clouds gathering in the sky. So, purvat is an effect. Thus, the type of inference which is called purvat is to be illustrated by the inference of a cause by means of an effect but not by inference of an effect by means of a cause. It is impossible to infer an effect from a cause. Thus, purvat mean an inference which has for its probans the cause. When an object not perceived at the moment as inferred through the perception of the two objects as they were previously perceived,
as for example, fire and smoke. Vatsayayana recognize two meanings of *purvat*. According to the first explanation, the *purvat* is that in which an effect is inferred from its cause or it is the inference of an unperceived effect from a perceived cause. When we see the clouds and except rain. Another interpretation of the term *purvat* suggested by Vatsayayana is that in which out of two things perceived (at the time of inference) is inferred from smoke or it is a type of inference in which out of two things, one that is not perceived, is inferred from the perception of the other on the basis of a former perception of both of these things together, e.g. inference from unperceived fire from perceived smoke on the basis of the previous perception of fire and smoke together.

*Sesavat:*-

‘*Sesa*’ means ‘effect’. Gautama states that a *sesavat* inference is that in which we infer the unperceived cause from a perceived effect. In it we perceive the consequent and infer the antecedent. In this way inference of cause from its effect is *sesavat* inference. Contrary to *purvat* inference, here the causal relationship is between *Sadhya* (fire) and *Sadhana* (smoke) in the *Vyapti*. In this inference we pass from the knowledge of the effect phenomenon to that of antecedent causal phenomenon. The previous or past cause is inferred from the present effect. This is illustrated in the inference of rain from the rising of the water in the river and its swift muddy current. So in this way *Sesavat* means an inference ‘which has its probans the effect’. It will be observed here that in either *purvat* and *sesavat* inferences the *Vyapti* or the universal relation between the major (fire) and middle term is a uniform relation of causality between them. Mathare and Gaudapader regard that *sesavat* from part to the rest for example, after finding a drop of water from the sea to be saltish, one infers that the rest of the water is also saltish. Vacaspti Misra gives interpretation of *sesavat* through elimination. Yuktidipika (gives interpretation i.e. from effect to cause) states *sesavat* as that in which after observing the accomplishment of an effect one comes to know the prior existence of its cause. For it is illustrated example, one comes to know the meeting of the couple after seeing a boy. Vatsayayan gives two interpretation of *sesavat*. First interpretation of *sesavat* inference is that in which the cause is inferred from the effect or the inference of an unperceived cause from a perceived effect.
A past rainfall is the source of a river being inferred from its fullness, muddiness of water and swiftness of current, which are perceived. These two kinds of inference are based on the causal relation. In the first, an effect is inferred from a cause. In the second, a cause is inferred from an effect. There could be many possibilities with regard to the explanation of the fact. When all the possibilities except one are rejected, the remaining one is cognized through the means of _sesavat_ inference; a _sesavat_ inference is inference by elimination (_paisesa_).

**Samanyatodrsta-**

_Samanyatodrsta_ means the perception of an object at some place which was previously somewhere else is due to its moment, so also that of the sun. Inference which provides knowledge of any unperceived object is called _samanyatodrsta_. According to some Naiyayikas, _samanyatodrsta_ means an inference having for its proban something other than the cause or the effect. It is illustrated by that, from the sight of the ducks at a distance one infers water though there is no cause and effect relation between the two. This inference is not based upon the relation of causality but it is based on the fact that there is motion in the sun. It is inferred from the change of position because when other objects change their position, motion is always apparent knowledge. It is also defined as the means of knowing a thing beyond the range of the senses through its inseparable connection with another thing, which lies within the range, resembles comparison to some extent. The _Vyapti_ or the universal relation between the major and middle terms does not depend on a causal uniformity. In this inference, the middle term of the inference is related to the major term, neither as a cause nor as an effect. We infer the one from the other, not because they are uniformly related to each other. We perceive the antecedent and infer the consequent. It is however also; use to indicate not merely inference from a cause but also inference based on from experience. The _samanyatodrsta_ is that illustrated as the perception of something at some other place is caused by movement as the Sun is observed at different places. Therefore, it is inferred that there is movement as the sun through imperceptible. Inference of an imperceptible object from a perceived mark, which is known to be uniformity related to it. The movement of the Sun is inferred from its different positions in the sky which are perceived, even as the movement of a person is inferred from his different positions on earth.
The second explanation offered by Vatsyayana refers to *samanyatodrsta* as inference in which the relation between the antecedent and consequent, not being a matter of perception is established. On the ground of an abstract similarity with something e.g. inference on the basis of the fact that desire, etc are qualities and those qualities must abide is some substance namely the self. *Samanyatodrsta* as the inference of an unperceived object from a mark which is perceived, though the relation between them is not perceived. We infer the existence of the soul from the qualities of cognition, pleasure, pain, desire, aversion and volition, must infer in a substance. Yuktidipika discusses the *samanyotodrsta* more elaborately. It states that after observing the invariable association of two objects, one comes to know the invariable association of the objects of same group at some other place at some other time, for example, after observing the existence of some other fire through some other smoke.

Samkhya Karika gives two interpretations i.e. (1) based upon analogy and (2) inferring a characteristic in other case after observing it in one case some of the commentators of *Samkhya Karika* gives both of these interpretations while some give one of them. Mathara gives the latter interpretation for example, observing the mango tree having flower, one infers the flowers on their trees as well. Gaudapada gives both of the above interpretations. For the former he gives the following example, the moon and stars have movement because they change the place. It will be observed here that in both *purvat* and *sesavat* inferences the *Vyapti* or the universal relation between the major and middle terms is a uniform relation of causality in *samanyatodrsta* inference however the *Vyapti* or the universal relation between the major and middle term does not depend on a causal conformity. The middle term of the inference is related to the major term neither as a cause, nor as an effect. We infer one from the other, not because they are uniformly related to each other in one experience.

The Naiyiyikas, Uddyotakara Vardaraja, Gangesa have classified *anumana* into three kinds, they are *Kevalavyatirek, kevalanvavi* and *anvaya* (*trividhamiti anvayiyatireki anvaya Vtatreki ceti-N V, 1.1., 5*) in the case of *kevaravyatireki* the *vyapti* is negative only, nor there is any possibility of homogeneous example, while in the case of *anvayavyatireki*, the *Vyapti* can be stated is both the
forms. Varadarja, Gangesa also mention three kinds of inference. i.e. kevalan vayi, kevalayatireki and anvayavyaterki.

The Advaitins are of the opinion that arthapati is a separate pramana by itself and it cannot be reduced to kevlavyatireki anumana so the Advaitins do not recognize kevalavyatireki at all. They also dispense with kevalanayi because the negative concomitance (kevalavyatireki) of Hetu and Sadhya can occur in Brahman since everything is absent in Brahman. Anvayavyatireki is the only anumana accepted by the Advaitins as just anvayi-anumana. Annambhatta opined that Linga paramarsa is anumana. Linga is of three types: - anvayavtireki, kevalanvayi and kevalanvayavyatireki. It is kevalanvayin when based on a middle term which is always positively related to the major and anvayavyatirekin when the middle is both positively and negatively related to the major term kevalanvayi, kevalavyatireki and anvayavyatireki inference.

**Kevalanvayi** : An inference is called kevalnaviga when it is based on a middle term which is only positively related to the major term. In this inference, the reason exists in the subject and similar instances and is devoid of dissimilar instances. Here the means and the objects are always found going together, meaning thereby that case in which the Vyapti is established by an agreement in presence between the middle and the major term, and in which there is no exception. The knowledge of Vyapti between the middle and major terms is arrived at only through the method of agreement present (anvaya), since there is no negative instance their agreement in absence is illustrated in the following inference.  

All knowable objects are nameable,

The pot is a knowable object,

Therefore the pot is namable
**Kevalanvayayatirekia;**

The Vyapti here is arrived at only through the method of agreement in absence. It is an inference in which the reason exists in the subject but does not exist in dissimilar instance. Where the inference proceeds not from the agreement in presence of the middle and major term but from the Vyapti between the absence of the major term and absences of the middle term, it is called kevalavyatireki inference. It depends on Vyapti or a universal relation between the absence of the major term and that of the middle term only. There is no positive instance of agreement in presence between the middle terms excepting the minor term. An example of this type of inference would be

That which is not different from other elements

The earth has smell,

Therefore the earth is different from other elements.

In this inference the first sentence establishes a relation between the absence of the major term and the middle term and relation established is one of the invariable concomitances. It is not possible to discover the characteristic ‘smell’ in any place other than earth. For this reason it is not possible to establish a relation of agreement in presence between the major and the middle terms. This way, here inference has been made on the basis of absence through the medium of invariable concomitance. In the second case the Vyapti, is a purely negative proposition when the universal relation between the middle and major term is arrived from uniform agreement in absence alone, the inference is called kevalavyatirekin. The nature and ascertainment is the most important part of inference. However there are many cases whose inference is possible but there is no relation in case of effect.

**Anvaya Vyatireki:** If the middle term is positively and negatively related to the major term as an inference then it is called anvayavyatireki and in all similar instances, but does not exist in dissimilar instances, such as sound is non-eternal, because it is produced. Like a jar, the
knowledge of the Vyapti (universal proposition), the basis of inference, is arrived at through the joint method of agreement in presence and in absence (anvayavyatireki). The following are quite illustrative:

1) All cases of smoke are cases of fire, the hill is a case of smoke, and therefore the hill is a case of fire.

2) No case of non fire is case of smoke, the hill is a case of smoke, and therefore the hill is case of fire.

When the relation between the major and middle term is based on both agreements in presence and absence, the inference is anvayavyatireki. The Mimamsakas do not accept the above triple classification. They recognize that first only as the universal relation between the two terms can only be affirmative.

Hetvabhasa

Gautama’s Nyaya Sutra is the first arranged work on this topic. The later Naiyayikas hold Gautama view regarding hetvabhasa with some modification. A fallacy is called hetvabhasa, it means that a Hetu or reason appears to be real or appropriate but in fact is not. Gautama has not furnished any general definition of hetvabhasa. But he gives some hints while discussing points to defeat in which he holds out those fallacies are mere resemblances of reason. A person who employs them in a disputation, certainty deserves rebuke. Vatsyayana points out that fallacy of the Hetu are called hetvabhasa because these Hetus do not possess the characteristics of the Hetus proper and yet they appear like the hetus because of their similarity to them. Nyaya Sutra admits five types of hetvabhasa. 1. Savyabhicara or anaikantika 2. Viruddha (imtradictory) 3. Satpartipaksa (prakaranasama) 4. Asiddha 5. Badhita (katatita). Three types of hetvabhasa in the Vaisesika Sutra i.e. viruddha (contradiction) 2. Asiddha (unproved) and Samdigdha (doubtful). Gangesa provides three general definitions of hetvabhasa. There are hetvabhasa the object of that valid cognition which is opposite of the absence of the instruments of inference 2. Hetvabhasa is that object which if known prevents the knowledge of Linga from leading to an
Hetvabhasa is that characteristics which prevents known inference. Kanada mentions three fallacies of reason (hetvabhasa), aprasiddha, asan and saidigdha Pratasatapada interprets the Vaisesika Sutra as mentioned three fallacies contradictory, unproven and conclusive reasons. He equates aprasiddha with viruddha, asan with asiddha, and saidigdha with anaikantika. Sankaramisra, Jayanarayona and candrakanta interpret it in different ways.

aprisidha: It is the unproven reason. 2. Asan is the unreal or nonexistent reason. 3. Sandigdha is the doubtful or inconclusive reason. He gives two examples. ‘This is horse, because it has horns’. This is a bull, because it has horns. It is an example inconclusive reason. Vedanta states in Indian logic a fallacy is called hetvabhasa. It means that the middle term appears to be a reason but is not a valid reason. All fallacies are material fallacies. Here are five kinds of hetvabhasa. Asidha, Savyabhichara, Viruddha, Badhita, Prakaranasama. There are no formal fallacies in the Nyaya, which is not concerned with the formal truth. The fallacies are fully reason (hetvabhasa). All fallacies of inference are due to the fallacies of the reason or middle term, which cannot prove the existence of the predicate in the subject.

The word literally means a resemblance of reason or what appears to be a reason while it is really not so (hetvabhasa). When the reason or the proban does not prove the probandum, it is called a defective reason (dustahetuh). Hence the defects which vitiate a proban are called hetudosah or hetvabhasa (fallacies reason or defective reason). According to him a reflective proban, is a reason whose probature value is vitiated by a circumstance, a valid knowledge of which would prevent the inferential knowledge. A reason becomes defective when a proban or a reason proves the probandum when it possesses the characteristics of failed reason and in default of any of which it becomes defective reason. These are five kinds and five characteristics of value reason.

The violation of any one of these conditions would spoil the certitude of the Hetu as determining the inference, and thus would only make the Hetu fallacious, or what is technically called hetvabhasa or seeming Hetu by which no correct inference could be made. Thus the inference that sound is eternal because it is visible, is fallacious for visibility is quality which sound (here the Paksa) does not possess. Mathara and Gaudapada establish the necessity of both probans and probandum for inference but they draw further conclusion that sometimes Linga leads to the
knowledge of Linga and sometimes Lingi to the knowledge of Linga. For example sometimes Linga likes tridanda lead to the knowledge of mendicant and sometimes Lingi like mendicant leads to the knowledge of Linga like tridanda. Vatsyayana defines various concomitances as the absence of uniform relation of the reason with the predicate. A reason is conclusive, which has uniform relation to the predicate. It is inconclusive if it has concomitance with the predicate and its absence. Uddyotakara defines variable concomitance as the existence of a reason is the subject (Paksa), similar instance (Sapaksa) and dissimilar instance (Vipaksa). Sound is eternal, because it is intangible. Intangible souls are eternal, but intangible cognitions are non-eternal. So the reason is inconclusive, irregular, erratic and discrepant canaikantika.

1. Savyabhicara or anakantika: - Savyabhicara is the Hetu which is inconstant, i.e. which is present sometimes with the Sadhya and sometimes not e.g. if fire is taken as the Hetu, it turns out to be inconsistent, and cannot prove the existence of smoke for even where smoke is not, there is fire. Gautama defines an inconclusive reason (savyabhicara) as one which has variable concomitance with the predicate. It means irregular or not being restricted to one (ekatra avyavasthiti) or simply inconstancy. savyabhichara means being characterized by such vyabhichara savyabhichara or inconstant proban does not lead to one single conclusion but to different opposite conclusions. It is also called anaikantika because it is not exclusively connected with any anta or end.

2. Satpartipaksa: Prakaransama: The reason which is counterbalanced by another reason and cannot resolve the object is prakaransama (counterbalanced) controversies to the real character of it means a mark which is similar to the point at issue (prakarana). When there are two opposite views, with regard to the same subject and both the views are equally possible. Hence prakarana means both thesis and counter-thesis, which are equally doubtful and equally unascertained. A mark we can say that reason becomes counter-acted when its truth is an unsettled enquiry concerning the alternative possibilities of both thesis and counter thesis, without being able to establish either definitely. It is the inferentially of which the conclusion is validity contradicted by another inference. The inference “Sound is eternal, because it is audible,” is validity contradicted by another inference. “Sound is non-eternal; because it is produced. Gautama
defined prakarnasama, Hetu as that which is put forward to establish a definite conclusion, while it is one that gives rise to suspense and vacillation in regard to the point at issue. In this fallacy one is put in the position of having the contradictory of one’s conclusion proved by some other inference which is based on another middle term. Sound is non-eternal because the characteristics of anything eternal is not perceived in it, whatever is perceived as without the characteristics of anything eternal is found to be non-eternal like the cooking pot, etc. At the same time “Sound is eternal because the characteristics of any non-eternal is not perceived in it, whatever is perceived as without the characteristics of anything non-eternal is found to be eternal, like the empty space etc”. Here the first mark leaves scope for an equally strong alternative mark proving the counter thesis. Therefore, it is a counteracted mark.

In the ‘counteracted’ (prakararanasama) is a mark, “when employed for final ascertainment (nirnayartham expodesta) gives rise to the suggestion (cinta) of doubtful alternative, possibilities (prakarana). It is also known as satpraatipaks (counter balanced).

Asiddha (Sadhyasama): Gautama defines an unproven reason (sadhyasama) as one that requires to be proved like the predicate. But it should not require any proof. The unproved middle is a fallacy which occurs when the reason employed in any inference is itself unproved or unestablished and therefore, it does not lead to any valid conclusion. It is also called sadhyasama or similar to Sadhya (probandum or the characteristics sought to be proved). If the reason employed is equally unproved; it has the same status as that of the Sadhya. The a-sidhya or Sadhyasama is a middle term which is not a real fact, but an undue assumption, as when one argues, “The sky Lotus is fragrant, because it has Lotuses in it like a natural Lotus”. The Unproved Hetu (asiddha) is that which, being still to be proved is not different from the Sadhya. This is the reason why Gautama considered Asidha Hetu as sadhyasama. In other words we can say that asiddha is ‘that Hetu whose subsistence in the Paksa is as unsettled as that of Sadhya says the Nyaya Sutra Vivaran. This occurs when the middle term, like the major term, requires proving. In the stock example, “the sky-lotus is fragrant because it is a Lotus like that found in water, “the minor term is “unreal” and so the middle term has no place to stand. Vatsyayana
regards it as not different in logical validity from the predicate inasmuch as it requires to be proved like it. Uddyotakara calls it asiddha.

Sadhyasama is the hetu which is unproved, and is yet to be proved, even as the Sadhya is and so cannot prove the Sadhya. It is illustrated as the inference “Shadow is a substance because it is characterized by movement”, the Hetu being characterized by movement is as unproved as the Sadhya being a substance. It has following three varieties:

1. Svarupa-asiddha is the intrinsically unproved reason, e.g. the movement of the shadow in the above inference.

2. Asraya-asiddha or having an unproved substratum e.g. shadow is characterized by movement because it is perceived to occupy different spaces. Here the reason being perceived as occupying different spaces proves movement only when this characteristic is a substance, whereas in the case of shadow the said perception does not characteristics remains unproved.

3. Vyapatva-asiddha or a reason having no established concomitance with Sadhya e.g. the hill contains fire, because it contains black smoke. Here black smoke is a defective reason, because there is already a universal relation between smoke and fire and as such the addition of ‘black’ to smoke is redundant.

4. Badhita (Abhidha) (primary meaning) (kalatita) (Contradicted middle-Nyaya) It is called sakyaarthta, mukhyarthta or vachyartha. It is the inherent potency of a word to mean as object and a word possessing such a meaning is called Vachaka or Sakta. This fallacy consists in being contradicted by a stronger source. It directly prevents inference. It is illustrated thus: ‘Fire is cool, because it is a substance’. Here the reason ‘Substance’ is contradicted by factual perception (a stronger source which shows that fire is not cold but hot). According to Nyaya, the relation between a word and its meaning may be direct or indirect. The former is called Abhidha

And the latter is known as laksana. The former has direct power to convey the sense intended, while in the Latter this power is derived from the primary sense. Badhita is also called kalatita or
the mistimed fallacy of kalatita occurs when the reason is violated by a lapse of time. This fallacy occurs when the middle term is contradicted not by another inference, but by another source of knowledge (*pramana*). If “fire is cold because it is a substance”, the middle term “substance” is contradicted because cold “the major-term, is contradicted by perceptual experience (*pratyaksa*). We don’t perceive that fire is cold; on the contrary, we perceive that it is hot. Gautama defines a mistimed reason (*kalatyojotadista*) as one that partly exists at some other time than when it is intended. Katatita is the inopportune or mistimed probans, e.g. the inference Sound is eternal, because it is manifested through conjunction, like colour, is not sound because the reason does not tally with the example. The Navyayakas maintain that there are three kinds of meaning of a word. *Abidha*, *paribhasa* and *laksana abhidha* are the direct relation between a word and its meaning. This relation may be either natural or conventional. The Mimamsakas maintain a natural relation between a word and the object meant by it. In kalatita, the reason is vitiated by the limitation in time, while is badhita it is contradicted by a stronger source. In short it is a middle term, the non-existence of whose major is ascertained by means of some other *pramana*. This is illustrated thus; fire is cold, because it is a substance. Here the coldness of fire is disproved by perception

Virudhha: (Contradictory): A hetu may be contradictory if and only if it is in contradiction something which the proponent has already accepted or is known to hold. Gautama in *Nyaya*-Sutra defines it as: “A certain doctrine (or view) having been accepted the hetu that is contradictory to it is called the viruddha hetuabhasa”. It is the contradictory hetu, i.e. hetu which proves the contradictory of what it is intended to prove; this is illustrated when one argues “sound is essential, because it is produced”, the fact of being produced shows in non-eternal things are produced for whatever is a product must be non-eternal. In contradictory the same proban proves the contrary, the probandum being known to be invariably concomitant with the absence of the proban. The viruddha or the contradictory middle is that which proved the contradictory of what it is intended to prove, e.g. in “air is heavy because it is empty”, the middle term “empty” actually disproves the heaviness of air.
References

5. *Tarka Bhasya*, p.34.
9. N.B.ii,1.31
19. Dr. (Mrs) Aruna Goel, Indian Philosophy, Sterling Publishers, New Delhi, 1984, p.53.