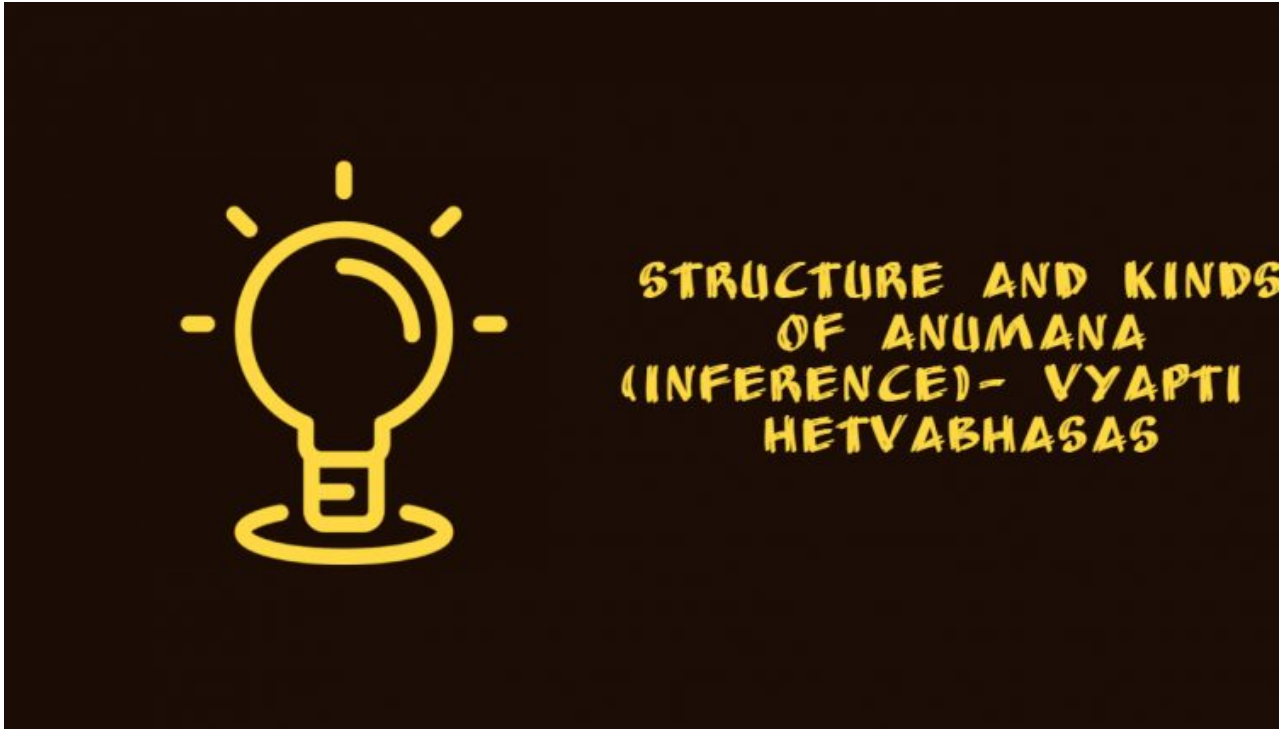


Structure and kinds of Anumana (inference)- Vyapti , Hetvabhasas | New Topic

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Notes on Indian philosophy logic system

Topic Covered Based on Latest UGC NET EXAM Syllabus – Structure and kinds of Anumana (inference), Vyapti (invariable relation), Hetvabhasas (fallacies of inference).

As we have already discussed the various types of Pramanas in previous unit. In this article we will cover the details of Anumana (inference) along with the structure and kinds of Anumana (inference).

After going through this article you will have good understanding of –

- Nature of inference
- Different kinds of inference
- Grounds of inference in Nyaya system ; and
- Vyapti (invariable relation), Hetvabhasas (fallacies of inference).

Many students has complained about the difficulties of these topic as they are not able to understand clearly about the key concepts of Inference. As this topic is based on philosophy so you might feel uncomfortable with the topic so its suggested to read multiple time to gain required knowledge to solve NET EXAM Questions.

Structure and kinds of Anumana

In Sanskrit inference is known as 'anumâna'. Anumâna is the second source of valid knowledge according to the Nyâya-Vaiûeika school. Anumâna is a mediate and indirect source of knowledge.

The word **anumana** is combination of 'ANU' which means after and 'MANA' which means knowledge, so the combined meaning of the word is 'after knowledge'.

Let's take the example to understand it in better way –

Let us take the following example:

The hill is fiery.

Because the hill is smoky.

Whatever has fire has smoke. In the above example, we pass from the perception of smoke in the hill to the knowledge of the existence of fire in it on the ground of our previous knowledge of the universal relation between smoke and fire.

THE CONSTITUENTS OF INFERENCE

This may be explained with the help of the above example of inference, the presence of fire on the perception of smoke. When one sees smoke on distant hill one remembers one's experience of the universal concomitance (Vyapti) between smoke and fire and concludes that there is fire on the distant hill.

In the above mentioned example, three points are to be noted. First, there is the perception of a mark or reason (hetu), (e.g. smoke) in a subject (hill). Secondly, there is a recollection of the relation of invariable concomitance between smoke and fire as we have observed in the past. Thirdly, there is the inference of the existence of an unperceived object (e. g. fire) in the subject (e. g. hill).

Three terms are involved in this inference. They are paksa, sâdhya and hetu.

The character which is inferred (fire) is called sadhya; the mark on the strength of which the character is inferred is the hetu (smoke); the subject where the character is inferred is paksa (hill).

The three terms correspond to the major, minor and the minor terms in the Aristotelian syllogism.

In Nyâya theory of perception, we find five propositions. These propositions are known as 'members' (avayava) of Nyâya syllogism.

These five members of Indian syllogism are called Avayavas are: pratijñâ (proposition), hetu (reason), udâharana (example), upanaya (application) and nigamana (deduction).

This five- member syllogism may be illustrated in the following way:

The following is a typical nyaya syllogism.

- This hill has fire (pratijna),
- Because it has smoke (hetu),
- Whatever has smoke has fire e.g. an oven (udaharana),
- This hill has smoke which is invariably associated with fire (upanaya),
- Therefore this hill has fire (nigamana).

The first, the pratijna, is the logical statement which is to be proved.

The second is hetu or reason which states the reason for the establishment of the proposition.

The third is udaharana which the universal concomitance together with example . the fourth is upanaya or application of the universal concomitance to the present case. The fifth is nigamana or conclusion drawn from the preceding propositions.

What is Vyapti (Invariable Relation) ? How is vyâpti known by us?

The word 'Vyâpti' literally means 'the state of pervasion.' It implies a correlation between two facts, of which one is pervaded (vyâpya), and the other pervades (vyâpaka).

A fact is said to pervade another when it always accompanies the other. A fact is said to be pervaded by another when it is accompanied by the other.

In the above given example, smoke is pervaded by fire, since it is always accompanied by fire. But while all smoky objects are fiery, all fiery objects are not smoky, e. g. the red hot iron ball.

For example, we have several times seen the smoke and the fire together in the kitchen etc, and we have ascertained the invariable relationship between the two. Now, we perceive smoke on the hill, so we infer fire on the hill. There cannot be smoke in the absence of fire.

Because of this universal relationship between fire and smoke, the existence of fire is necessarily to be admitted in every case of smoke. Without the definite knowledge of such a relation, our inference of fire is impossible in spite of the perception of smoke.

A vyapti may be of two types-

1. Samavyâpti and
2. Asamavyâpti.

A vyâpti between terms of equal extension is called samavyâpti or equipollent

concomitance, e.g. 'nameable' and 'knowable'. Whatever is nameable is knowable and again whatever is knowable is nameable. Here, we can infer either of the term from the other.

On the otherhand a vyâpti between terms of unequal extension is called asamavyâpti. It is the relation of non-equipollent concomitance between two terms. Here, we can infer one term from the other, but not vice-versa, e.g. we may infer fire from smoke, but not smoke from fire. Fire is present in all cases wherever smoke is present, but the reverse is not true.

CLASSIFICATION OF INFERENCE

There are different ways of classifying inference. According to the first classification of inference, inference is of two kinds, svârtha and parârtha.

This classification is a psychological classification of inference.

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- If a person wants to infer something for himself, it is called svârthanumâna. Therefore, it is defined as an inference for one's own conviction. A person who perceives a patch of smoke remembers that there is a universal relation between smoke and fire and finally infers that there is fire in the hill.
- An inference is said to be parârthanumâna when an inference is done in order to convince others. This inference is done when someone, after inferring for himself fire from smoke expresses it in five-membered syllogism to carry his conviction to another. In order to convince one's own self either the first three propositions or the last three propositions of the Pancavayava nyaya is sufficient.
- On the otherhand, all the five propositions of pancavayava nyaya are necessary in order to convince others.

It is to be noted here that the division of inference into svârtha and parârtha is not mentioned in the sutras of Gautama and Kanâda. It was first observed by Prasastapâda in the Bhâsya on the Vaiúeika sûtra.

According to another classification, an inference is divided into three kinds, pûrvavat, sesavat and sâmânyatoda.

This distinction was drawn by Gautama. While pûrvavat and sesavat inferences are based on causation, the last is based on non-causal uniformity.

A cause is the invariable and unconditional antecedent of an effect and an effect is the invariable and unconditional consequent of a cause.

1) Pûrvavat inference: When we infer an unperceived effect from a perceived cause we have pûrvavat inference. g. we see the dark clouds in the sky in the morning and infer future rain from the dark clouds.

2) Seavat inference : When we infer an unperceived cause from a perceived effect we have seavat inference, e. g. when we infer previous rain from the swift muddy current of the river.

3) Sâmnâyatodta inference : When an inference is based not on causation but on uniformity of co-existence, it is called sâmnâyatodta, e.g. when we infer cloven hoofs of an animal by its horns.

According to another interpretation, a pûrvavat inference is based on previous experience of universal concomitance between two things, a seavat is inference by elimination, and a sâmnâyatodta is inference by analogy.

According to another classification of inference, inference is divided into three types. They are — kevalânvayi, kevalâvyatireki and anvayavyatireki inferences. It is based on the nature of vyâpti.

1) Kevalânvayi inference: When vyâpti between the middle and the major term is derived from uniform agreement in presence alone, it is called Kevalânvayi inference.

In this inference the hetu has affirmative concomitance with sadhya only. For example,

All knowable objects are nameable;
The pot is a knowable object;
Therefore the pot is nameable.

2) Kevalâvyatireki inference: When vyapti between middle and the major is derived from uniform agreement in absence alone, it is called kevalâvyatireki inference. In this inference hetu is only negatively related to the sadhya. For example,
What is not different from other elements has no smell;
The earth has smell;
Therefore the earth is different from other elements.

3) Anvayavyatireki inference : When the middle term in an inference is both positively and negatively related to the major term, it is called anvaya-

vyatireki inference. In it there is a vyâpti or universal relation between the hetu and the sâdhya in respect of both their presence and absence.

For example,

a) All smoky objects are fiery;
The hill is smoky;
Therefore the hill is fiery.

b) No non-fiery object is smoky;
The hill is smoky

Therefore the hill is not non-fiery;
That is, the hill is fiery.

Kevalânvayi inference corresponds to Mill's Method of Agreement, kevalâvyatireki inference corresponds to his Method of Difference and anvayavyatireki inference corresponds to his Joint Method of Agreement and Difference or the Method of Double Agreement.

FALLACIES OF INFERENCE

In Indian logic a fallacy is known as hetvâbhâsa. This fallacy means, the middle term appears to be a reason but is not a valid reason. In Western logic fallacies are formal in nature. But the Naiyayikas hold that the logical forms of inference are the same for all valid inferences.

A fallacy relates to material condition of an inference. So all fallacies are material fallacies. There are five characteristics of a valid term. When these characteristics are violated, fallacies arise. Five characteristics of a middle term are:

- It must be present in the minor term (pakadharmatâ); e.g., smoke must be present in the hill.
- It must be present in positive instances in which the major term is present; e.g., smoke must be present in the kitchen where fire exists (sapakasattva).
- It must be absent in all negative instances in which the major term is absent; smoke must be absent in the lake in which fire does not exist (vipakasattva).
- It must be non-incompatible with the major term; e. g., it must not prove the coolness of fire (abâdhita).
- It must be qualified by the absence of counteracting reasons which lead to a contradictory conclusion; e.g., 'the fact of being caused' should not be used to prove the 'eternality' of sound. (aviruddha).

Violation of the above characteristics leads to the following fallacies. 1) Savyabhichâra, 2) Viruddha, 3) Satpratipaka, 4) Asiddha, and 5) Bâdhita.

1) Savyabhichâra or the fallacy of irregular middle: A middle term may be irregularly related to the major term. When the middle is not uniformly related to the major term then that is called savyabhicâra hetu.

Let us take the following example,
All bipeds are rational.
Swans are bipeds.
Therefore, swans are rational.

Here, the middle term is 'biped'. But it is not uniformly related to the major term 'rational'. The middle term in this example may be related to both rational and non-rational creatures. Therefore, it is a defective hetu.

2) Viruddha or the contradictory middle: The viruddha hetu or the contradictory middle is that hetu, which though offered to establish the existence of the sâdhya actually establishes the non-existence of the sâdhya; e.g. 'sound is eternal, because it is produced'- here, the middle term 'produced' does not prove the eternity of sound, but proves its non-eternity. Here, the middle term itself disproves the original proposition and proves its contradictory.

3) Satpratipaka or the inferentially contradicted middle: When a hetu which is advanced to establish a particular sâdhya in an inference is validly contradicted by another hetu which proves the non-existence of the sâdhya of the first inference, the fallacy of satpratipaka arises.

In this case the first hetu is called satpratipaka hetu.

For example, 'sound is eternal, because it is audible' is validly contradicted by another inference 'sound is non-eternal, because it is produced like a pot.' Here, the middle term of the first inference, 'audible' is contradicted by the middle term of the second inference 'produced.'

4) Asiddha or the unproved middle: The asiddha hetu is one which is not yet proved, but requires to be proved, like the sâdhya. This means that the asiddha hetu is not a proved or an established fact, but an asiddha or unproved assumption.

Let us take an example, 'skylotus is fragrant, because it has lotusness in it like a natural lotus'. The middle term of the argument is yet to be proved, because we are yet to establish the existence of skylotus.

5) Bâdhita hetu or the non-inferentially contradicted middle :The middle term of an inference may be contradicted by some other 'stronger' means of knowing, such as perception, testimony etc.

It cannot prove the major term which is disproved by another stronger source of valid knowledge, e. g., 'fire is cold, because it is a substance'. Here the middle term 'substance' becomes contradicted because its major term 'coldness' is directly contradicted by perception.

These are the five kinds of defective hetus recognized in Indian logic. Of course there are some other fallacies including the fallacy of false analogy, the fallacy of false equivocation etc.

Keys Points to remember[You Must Know]

- Inference is an indirect source of valid knowledge according to the Nyâya System.
- An inference must have three terms. They are middle term(hetu), major term (sâdhya) and the minor term(paka).

- An inference(anumâna) consists of five propositions. These propositions are known as avayavas. These avayavas are: pratijñâ, hetu, udâharana, upanaya and nigamana.
- Vyâpti is the logical ground of inference. Parâmarsa is the psychological ground of inference.
- Vyâpti is an invariable and unconditional relation between the middle term and the major term. There are different methods for the establishment of vyâpti.
- The Naiyayikas hold that vyâpti can be ascertained by six different ways or methods.They are: anvaya, vyatireka, vyabhicâragraha, upâdhinirasa, tarka and sâmânyalaka pratyaka.
- Vyâpti may be of two types.1) samavyâpti and 2) visamavyâpti.
- Parâmarsa is defined as vyâpti qualified by pakadharmatâ. Presence of the middle term in the minor term is known as pakadharmatâ.
- Inference is a knowledge of the mark(middle term) as having the universal relation with the major term and as being present in the minor term(Vyaptivisista paka dharmatâjñânam).
- There are different ways of classifying an anumâna. According to one classification of anumâna, perception is of two kinds- Svârthanumâna and parârthanumâna.
- Another classification of anumâna divides anumâna into pûrvavat, sevât and sâmânyatodta.
- According to still another classification, anumâna is of three kinds- kevalanvayi, kevalâ- vyatireki and anvayavyatireki.
- Again,there are different material fallacies in the Nyâya system.
- In Indian logic a fallacy is called hetvabhâsa. The chief fallacies recognized in the Nyâya System are:1) savyabhichâra,2)viruddha, 2) satpratipaka,4) asiddha and 5) bâdhita.