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Comparative Study on Anumana and Inference of Hindu and Western Philosophy

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Abstract

Philosophy is called darsanas in Sanskrit language. Hindu Philosophy is the group of darsanas that emerged in ancient Indian sub-continent which also includes present Nepal. It dates back as much earlier than the western philosophy. It includes two philosophies: Astika and Nastika. Astika includes 6 systems: Samkhya, Yoga, Nyaya, Vaisheshika, Mimamsa and Vedanta. Among them, Nyaya deals with logic and reasoning. According to Nyaya Philosophy, there are four means of valid reasoning (pramana) that, according to it, help one to release from suffering. They are: Perception, Inference (Anumana), Comparison and Testimony. Among them, this paper is going to illustrate on Anumana and Inference of two Philosophies and its types and kinds. It denotes the early civilizations and helps to identify how logic was developed in East as well as in the West. And it helps to distinguish how the conclusion was made on these two parts of the world. However, this article is limited to anumana of Nyaya philosophy while other 5 systems of Astika also contain anumana.

In the Hindu Philosophy, *anumana* is a kind of knowledge (*mana*) which we get after (*anu*) some other knowledge or perception.[1] *Anumana* is based upon the knowledge of *vyapti* (invariable concomitance) between the mark and the character inferred without which it is not possible. So, *anumana* is the mediate knowledge of an object (for example: a fire) derived through the medium of the knowledge of a mark (for example: a smoke) by virtue of the relation of invariable concomitance between them.[2]

In the Western Philosophy, inference is a process by which one proposition is arrived at and affirmed in the basis of some other proposition or propositions.[3] In inference we pass from the perceived to the unperceived with which it is related. In any argument we affirm one proposition on the basis of some other proposition which is called inference.

Hence, these two terms (*anumana* and inference) can be compared. There are three terms in the demonstrative inference: The *Paksa,* the *sadhya* and the *hetu* correspond to the minor term, the major term and the middle term of the Aristotelian syllogism.

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1 Jadunath Sinha, *Indian Philosophy*, vol. I, New Central Book Agency (P) Ltd., India, 2000, p.511.

2 Ibid, para 2.

3 Irving M. Copi, Carl Cohen & Kenneth D. McMahon, *Introduction to Logic*, 14th edition., Pearson Education, India, 2011, p.5.

Therefore, the *Nyaya* demonstrative inference *(prayoga)* may be compared with the Aristotelian syllogism[4].

Nyaya is one of the six orthodox or *astika* schools of Hindu philosophy which deals particularly to the science of logic.[5] "The most important contribution made by the *Nyaya* School to modern Hindu thought is its methodology".[6] It is based on a system of logic and has been embraced by the majority of the other Indian schools, *astika* or *nastika*. This is practically identical to how Western science and philosophy can be said to be to a great extent, based on Aristotelian logic.[7]

According to *Nyaysutra*, *Gautama* has suggested four means of obtaining valid knowledge[8] (*pramana*):

1. Empirical knowledge, Sense perception/experience [*pratyaksa*]
2. Discursive reasoning, inference [*anumana*]
3. Analogy/Comparison [*upamana*]
4. Verbal testimony of a trustworthy source. [*sabda*]

Nyaya school followers believed that obtaining valid knowledge through valid *anumana* was the only way to obtain release from suffering whereas western philosophy emphasizes in making valid arguments through valid premise and valid inference. In the western philosophy, inference is simply a proposition derived or inferred from other proposition identified by phrases like "therefore..."or "implies that..." or "thus" which is called indicators (like conclusion indicators and premise indicators[9]). The last inference is called the conclusion. The arguments that arise in everyday speech cannot be readily tested unless we put them into standard form[10] so; we convert it into categorical syllogism which contains major term, minor term and middle term and corresponding major premise, minor premise and conclusion.

Many scholar have differentiate *anumana* from their own perspective. Scholars including *Vatsyayana, Uddyotakara, Visvanatha, Varadaraja* but emphasizing on *Aksapada Gotama,* he mentions three kinds of *anumana.* They are:

1. *Purvavat* (a prior): A *purvavat* inference is the inference of an unperceived effect from a perceived cause[11]. Simply, an effect is inferred from a cause. For example: future rainfall are (effect) is inferred from dense clouds (cause).

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4 Sinha (n 1), p.516.

5 Avi Sion, *A Fortiori Logic: Innovations, History and Assessments,* Avi Sion, Geneva, 2013, p. 323.

6 Lambert M. Surhone, Miriam T. Timpledon & Susan F. Marseken (eds), *Nyaya: Hindu Philosophy, Nyaya Sutras, Indian Logic, Hinduism, Vaisesika,* Betascript Publishing, 2010, p.1.

7 Hindu online, *'Nyaya Dashana'*, available at http://hinduonline.co/Scriptures/NyayaDarshana.html, accessed on 1st May 2016.

8 Yubaraj Sangroula, *Jurisprudence, The Philosophy of Law,* 1st edition, Kathmandu School of Law (KSL), Kathmandu, 2010, p.181.

9 Copi, Cohen & McMahon (n 3), p. 11.

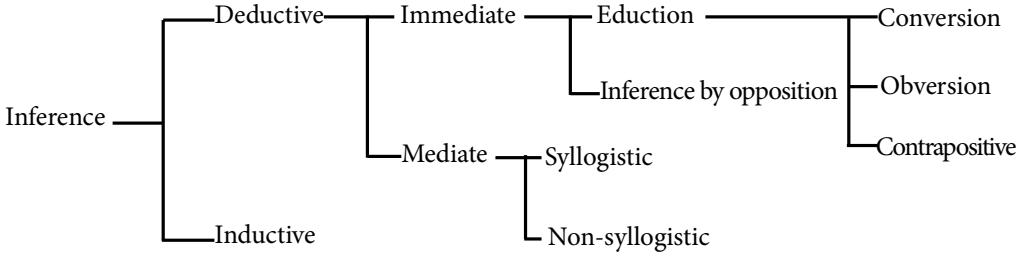
10 Ibid, p. 254.

11 Sinha (n 1) p. 517.

2 *Sesavat* (a posteriori): A *sesavat* inference is the inference of an unperceived cause from a perceived effect[12]. Simply, a cause is inferred from an effect. For example: A past rainfall (effect) is inferred from the fullness of river, muddiness of water or swiftness of current.

3 *Samanyatodrsta* (common sense): A *samanyatodrsta* inference is the inference of an imperceptible object from a perceived mark, which is known to be uniformly related to it.[13] For example: We perceive the different places of the stars and infer the sun must be moving though we do not see it. Simply, the movement of the sun is inferred from its different positions in the sky. It is based not so much on causation, as on uniformity of experience[14]. There are tigers in this jungle is inferred as anyone who enters the jungle never returned but here, there is no casual relation between them.

In western philosophy, traditionally inference is classified as follows:



(Source: Jain, Krishna, A textbook of Logic, 2011, p.76)

1. **Mediate inference**: It is inference drawn from more than one premise as is the case with syllogism, where the conclusion is drawn from the first premise through the mediation of the second.[15]
2. **Immediate inference**: It is an inference that is drawn directly from one premise without the mediation of any other premise. There are three important kinds of eduction. They are:
   - **Conversion**: It is an inference that proceeds by interchanging the subject and predicate terms of a proposition and these propositions may be validly inferred from one another. It is perfectly valid for all E and I propositions. The proposition from which it is derived is called the convertend.[16]

	Convertend	Converse
E	No human are Gods	No Gods are human
I	Some politicians are minor	Some minor are politicians

12 Ibid.

13 Ibid.

14 S. Radhakrishnan, *Indian Philosophy*, vol. 2, 2nd edition, Oxford University Press, 2014, p. 58.

15 Copi, Cohen & McMahon (n 3), p. 183.

16 Ibid, pp. 184-185.

- **Obversion**: To obvert a proposition, we change its quality (affirmative to negative or vice versa) and replace the predicate terms with its complement while the quantity (universal or particular) and the subject term remain unchanged. However, the subject term remains unchanged and so does the quantity of the proposition being obverted. It can be applied to any standard form categorical proposition[17].

	Obvertend	**Obverse**
A	All citizens are voters	No citizens are nonvoters
E	No umpires are partisians	All umpires are non-partisians
I	Some metals are conductors	Some metals are not non-conductors
O	Some nations are not belligerents	Some nations are non-belligerents

- **Contrapositive**: To form the contrapositive of a given proposition, we replace its subject term with the complement of its predicate term, and we replace its predicate term with the complement of its subject term[18].

	Premise	**Contrapositive**
A	All members are voters	All non-voters are non-members
O	Some citizens are not idealists	Some non-idealists are not non-students

These are the types of inference in the two philosophies. Western philosophy is more prone to convert into numeric (mathematics) than the Hindu philosophy.

Anumana is of two kinds.

1. Inference for oneself (*Svarthanumana*): It is a psychological process which does not require the formal statement of its different members. A person knows the invariable concomitance of smoke with fire by repeated observation.[19] It consists of last three of five steps of *parathanumana.*
2. Inference for others (*Pararthanumna*): It is intended for convincing others. It is a demonstrative inference which consists of the following five members (*avayava*)[20]. They are:
   - *Pratijna* (proposition)*:* There is fire (*sadhya*) on the mountain (*paksa*)
     (A statement needing to be proved)
   - *Hetu* (reason)*:* Because it is smoky
     (Statement of reason)
   - *Udaharan* (exemplification): Wherever there is smoke, there is fire, that

[17] Ibid, p.187.

[18] Copi, Cohen & McMahon (n 3), p. 187.

[19] Sinha (n 1) p.511.

[20] Ibid.

is supported by example (*drstanta*)-like a kitchen (*sapaksa*); unlike a lake (*vipaksa*)

(Universal major premise - result of induction)

- *Upanaya* (application)*:* The hill has smoke which is invariably accompanied by fire

(Deduction, application of general rule in this case)

- *Nigamana* (conclusion)*:* The hill is fiery

(Drawing the conclusion)

Whereas Aristotelian syllogism consists of 3 propositions:

- All animals have hair (major premise)
- Dog is an animal (minor premise)
- Therefore, Dogs have hair (conclusion)

Therefore, the *Nyaya* inference is inductive *(anulom)* cum deductive *(bilom)* and concerned with material truth whereas the Aristotelian syllogism is deductive and concerned with formal truth. And the universal major premise of the Aristotelian syllogism is not illustrated by an example.

Anumana and Inference was developed independently in the Eastern and Western part of the world respectively. They have the same implied meaning but a small difference could be figured out. Both take these term to obtain valid knowledge but the former has the purpose to release from suffering whereas the latter emphasis to deliver valid arguments. The latter was developed in such a way that it could be presented into more numeric or diagrammatic form like Venn diagram but the former is more of philosophical type. While producing an argument through former, it is backed by example, which is of utmost importance in the legal field, as it sometimes acts as a proof but the latter do not emphasis on examples. So, for the comprehensive knowledge of logic, we should take into consideration both the philosophies. George Boole, whom we cannot neglect while studying logic, too was much influenced by Indian thinkers.[21] While providing the citation (examples) of George Boole emphasis into taking consideration of both the philosophies became more relevant. Hence, as in Hindu philosophy, example is also of utmost important. Therefore, both the philosophies are essential for the comprehensive knowledge.

[21] Copi, Cohen & McMahon (n 3), p.616.