Nyaya: The classification of inference

As we have seen before, inference is, in Indian logic, a combined deductive-inductive reasoning consisting of at least three categorical propositions. All inferences are thus pure syllogisms of the categorical type which are at once formally valid and materially true. Hence we have not here a classification of inferences into deductive and inductive, immediate and mediate, syllogistic and non-syllogistic, pure and mixed types. The Naiyāyikas give us three different classifications of inferences which we shall now consider.

According to the first classification, inference is of two kinds, namely, svārtha and parārtha. This is a psychological classification which has in view the use or purpose which an inference serves. An inference may be intended either for the acquisition of some knowledge on our part or for the demonstration of a known truth to other persons. In the first case, we have svārthānumāna or inference for oneself. In the second, we have parārthānumāna or inference meant for others. The first is illustrated by a man who first perceives a mass of smoke in the hill, then remembers that there is a universal relation between smoke and fire, and finally infers that there is fire in the hill.

On the other hand, an inference is parārtha when in making it a man aims at proving or demonstrating the truth of the conclusion to other men. This is illustrated when a man, having inferred or known the existence of fire in a hill, tries to convince another man who doubts or questions the truth of his knowledge, and argues like this: 'The hill must be fiery; because it smokes; and whatever is smoky is fiery e.g. the kitchen: so also the hill is smoky; therefore, it is fiery'. According to another classification, we have three kinds of inference, namely, pūrvavat, śeṣavat and sāmānyatodṛṣṛa.

This classification has reference to the nature of the vyāpti or universal relation between the middle and the major terms. While pūrvavat and śeṣavat inferences are based on causal uniformity, the last is based on non-causal uniformity. A cause is defined as the invariable and unconditional antecedent of an effect. Conversely, an effect is the invariable and unconditional consequent of a cause. Accordingly, a pūrvavat inference is that in which we infer the unperceive effect from a perceived cause, e.g. the inference of future rain from the appearance of dark heavy clouds
in the sky. A śeṣavat inference is that in which we infer the unperceived cause from a perceived effect, e.g. the inference of past rain from the swift muddy current of the river. In these two kinds of inference, the vyāpti or universal relation between the middle and the major terms is a uniform relation of causality between them. They are thus dependent on what is known as 'scientific induction'. In sāmānyatodṛṣṭa inference, however, the vyāpti or universal relation between the middle and the major terms does not depend on a causal uniformity. The middle term is related to the major neither as a cause nor as an effect. We infer the one from the other not because we know them to be causally connected, but because they are uniformly related in our experience. This is illustrated when, on seeing the different positions of the moon at long intervals,

we infer that it moves, although the motion might not have been perceived by us. In the case of other things, whenever we perceive change of position, we perceive motion also. From this we infer motion in the moon, although the movement of the planet is not perceived. Similarly, we may infer the cloven hoof of an unknown animal simply by seeing its horns. These inferences depend not on a causal connection, but on certain observed points of general similarity between different object of experience. Sāmanyatodṛṣṭa inference is thus similar to analogical argument.

A third classification gives us the three kinds of kevalānvayi kevalavyatireki and anvayavyatireki inferences. This classification is more logical in as much as it is based on the nature of the induction by which we get the knowledge of vyāpti, on which inferences depend. An inference is called kevalānvayi when it is based on a middle term which is only positively related to the major terms. Hence the knowledge of vyāpti between the middle and the major term is arrived at only through the method of agreement in presence (anvaya), since there is no negative instance of their agreement in absence. This is illustrated by the following inference:

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

In this inference the major premise is a universal affirmative proposition in which the predicate 'nameable' is affirmed of all knowable objects. It is not really possible for us to deny the predicate with regard to the subject and say that here is a knowable object which is not nameable, because we have at least to speak of it as an object. The minor premise and the conclusion of this inference are also universal affirmative propositions and cannot be otherwise. Hence, in its