

***Anumāna* as Analogical Reasoning**

A Critical Analysis

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Abstract:

Like most other branches of knowledge, philosophy proceeds from the known to the unknown. The foundation of the philosophy is experience, and the chief tool used is reason. The philosopher must employ his imagination and reasoning and find out answers consistent with truths already established by experience. Here the question arises: What experience should form the basis of philosophy? In response to this philosophical problem, particularly from Indian philosophical point of view, this research paper is trying to discuss how *Nyāya* considers *anumāna* as the kind of strong analytical reasoning based on positive and negative instances. Also *Naiyayikas* succeeded *Dharmakirti's* mixed between these two considerations, that is, consideration about analytical reasoning which more practical than logical and consideration about validity and soundness of reasoning which was more logical than practical where *Dharmakirti* considers seriously the sound and unsound, valid and invalid modes of reasoning.

Key words: *Anumāna, pramāṇa, Tarka, Analogical reasoning, Vyāpti, Siddhānta*

Indian philosophical thoughts are described as 'systems' because the thoughts in each are well coordinated and constitute a logical whole. They are systems also in another sense; for they are regarded as closed (*siddhānta*) in essentials, though not in matters of detail. Many of them are more than philosophy, as we now understand the term, since they include on the one hand religion and, on the other, what would in these days be regarded as science. The value of the science contained in the systems cannot be great now when experimental methods of investigation have advanced so much. Indian philosophy denotes the philosophical speculations of all Indian thinkers. It is marked, in

this respect, by a striking breadth of outlook, which only testifies to its unflinching devotion to the search for truth. Though there are many different schools and their views differed sometimes vary widely, yet each school took care to learn the views of all the others and tried to justify its own claims against each other revival claim. This spirit led to the formation of a method of philosophical discussion. Philosophy proceeds from the known to the unknown. The foundation of the philosophy is experience, and the chief tool used is reason. The philosopher must employ his imagination and reasoning and find out answers consistent with truths already established by experience. Here the question arises: What experience should form the basis of philosophy? There are two views that philosophy should be based on ordinary normal experience. That is, on truth discovered and accepted by people in general or by scientists. This ordinary normal experience is accepted by most modern European thinkers as well as the *Nyāya*, the *Vaiśeṣika*, the *Sāṃkhya* and the *Cārvāka* schools of Indian philosophy. The Buddha and the Jaina schools are also accepting it mostly. On the other hand reasoning is made to follow in the lead of authority, as well some matters, such as God, the state of liberation etc.

Reasoning is the chief instrument of philosophical speculation. It is made always to follow the lead of ordinary experience and to follow in some matters the lead of authority, as well. In Indian philosophy many theories are not based on independent reasoning alone but on authority as well and, therefore, they are dogmatic, rather than critical¹³¹. In any argument there are two parts, that is, the factual part, which is sought for justification. It is called conclusion. 'The grounds' for the conclusion are presented in the form of another part, which is called premises. If the premises are judged to be true and they provide logically sufficient ground for the conclusion (i.e., if they entail the conclusion) then the argument is called 'sound' argument. But if any of the premises do not provide sufficient ground for the conclusion then the argument is called 'unsound' argument. When premises, whether true or false, provide logically sufficient ground for the conclusion, then the argument is called valid, but it is not called sound unless the premises are judged to be true. Similarly irrespective of whether premises are true or

¹³¹ S.C. Chatterjee and D.M. Dutta, *An Introduction to Indian Philosophy*, Calcutta University Press, 1984, p. 7-8.

false, if the premises do not provide sufficient ground for the conclusion, then the argument is called invalid. Every invalid argument is unsound but not vice versa¹³².

Anumāna as a *pramāṇa* has a prominent place in the history of Indian Epistemology. The concept of *Anumāna* itself has a history. In early *Nyāya*, *anumāna* was discussed as kind of strong analogical reasoning based on positive and negative instances. But the reasoning that is involved in analogical argument is not formally valid, because the premises in such reasoning do not entail the conclusion; they do not provide conclusive evidence for the conclusion. *Dharmakīrti* was the first Indian logician to consider seriously the sound and unsound, valid and invalid modes of reasoning. *Naiyāyikas* who succeeded *Dharmakīrti* mixed between these two considerations: consideration about analogical reasoning; which was more practical than logical, and consideration about validity and soundness of reasoning which was more logical than practical. In this way the notion of *anumāna* as *pramāṇa* assumes a complex form in the place in the systems of Indian epistemology.

Of the *Nāstik* systems of Indian philosophy, none is so anti-*Vedic* as the *Cārvāka* School. It is more a philosophy of life than a theory of ultimate reality. *Cārvāka* stands in marked contrast to all other Indian philosophical systems. That is its weakness as well as strength and contribution. *Cārvāka* dogmatically rejected all dogmas. As Hume aroused the celebrated philosopher Kant from his dogmatic slumbers by challenging all that was hitherto accepted in philosophy, so *Cārvāka* posed a challenge before all traditional thoughts and values and thus created the need for rethinking the revaluation, necessary for all living philosophy.

The entire philosophy of the *Cārvāka* may be said to depend logically on their epistemology or the theory of knowledge. The main problems of epistemology are: How far we know reality? And what are the different sources of knowledge? This problem forms one of the chief topics of Indian epistemology. The problem arose in Indian philosophy in the context of the inter-school debates about the number and status of the *pramāṇas* or valid means of knowledge. Except for the *Cārvākas*, all the schools accepted at least perception (*pratyakṣa*) and inference (*anumāna*) as valid means of knowledge,

¹³² P.P. Gokhale, *Inference and Fallacies Discussed in Ancient Indian Logic* (with special reference to *Nyāya* and Buddhism), Sri Sadguru Publication, 1992, p. XXI (Intr.).

although there was considerable dispute as to the ultimate status of these *pramāṇas*. The *Cārvāka* holds that perception is the only *pramāṇa* or dependable source of knowledge. It gives rise only to a piecemeal knowledge of things without connecting them by means of any necessary relation. Yet he is stated to have postulated four elements (*bhūtas*) because each with its own character so far he is a realist and a pluralist. The elements are to be understood as gross in form; for *Cārvāka*, discarding inference, it cannot believe in any subtle state which can be deduced only by reason.

The *Cārvāka* denied the validity of inference and only accepted perception as a *pramāṇa*. The reasons offered for this stand are fundamentally concerned with the supposed impossibility of justifying the inductive relation that is the basis of Indian inference forms. *Pratyakṣa* is the only *pramāṇa* in the authoritative sense. *Anumāna* is also *pramāṇa*, but only in the instrumental sense. The defense of *pratyakṣa* as the only authentic source of knowledge needs qualification. *Pratyakṣa* has been classified into *nirvikalpaka* (non-judgmental) and *savikalpaka* (which is roughly judgmental) by Buddhist and others. The non-judgmental perception is truly the source of immediate cognition. Thus the *Carvāka* defense of *pratyakṣa* as the only *pramāṇa* (in the authoritative sense) has to be qualified and revised in the light of the distinction between *savikalpaka* and the *nirvikalpaka pratyakṣa*.

The *Carvāka* deny *pramāṇa*-hood to *anumāna*, in the authoritative sense, but not in the weaker or instrumental sense of *pramāṇa*. In the weaker sense, *anumāna* of a certain kind also in *pramāṇa*, here the weaker sense of *anumāna* as *pramāṇa* in a sense that empirically testable *anumāna* is *pramāṇa*. Jayantabhatta, in his *Nyayamanjari*, refers to the view that *anumāna* is of two kinds: *Utpannapratiti* and *Utpadyapratiti*.¹³³ The inference of fire from smoke belongs to *utpannapratiti*. The inference of transcendent entities that is, God belong to the *utpadyapratiti*. Hence the first kind of *anumāna* is acceptable as *pramāṇa*, but the last one is not.

The distinction between *utpannapratiti* means something which is experienced in the past, and *utpadyapratiti* means something which is yet to be experienced. The result of such an *anumāna* is empirically testable, at least in principle. In the smoke-fire example

¹³³ *The Carvaka Theory of Pramanas: A Restatement*. Author(s): Pradeep P. Gokhale. Source: Philosophy East and West, Vol. 43, No. 4. (Oct., 1993), pp. 675-682. Published by: University of Hawai Press.

what we infer, namely, fire (on the mountain), is not completely new to us; it is *utpannapratiti* because we have some experience of fire already. It is natural to test empirically the existence of fire on the mountain. On the contrast, if the object of *anumāna* is not something we have already experienced, but the knowledge of it is supposed to be generated through the *anumāna* itself, that is called *utpadyapratiti*. In argument for the existence of God, for instance, God in the form of its inferential judgment is something we are going to generate anew through the inference of itself. Hence this *anumāna* is classified as *utpadyapratiti*.

Now according to the *Cārvāka*, *anumāna* as a *pramāṇa* when it is empirically testable in the instrumental sense. So the kind of *utpannapratiti* in *anumāna* is parallel to the *Vaiśeṣikas'* classification of *anumāna* that is, *dr̥sta*. *Cārvākas* are suggesting that perception may give us certain knowledge; *anumāna* of the empirically testable (*utpannapratiti*, or *dr̥sta* in *Vaiśeṣika* terms) kind can give us only probable cognition, which may turn out to be true or false after investigation.¹³⁴ But *anumāna*, which is not so testable, is not *pramāṇa* even in the instrumental sense. That *anumāna* of the empirically untestable kind (*utpadyapratiti*) is parallel to the *Vaiśeṣika* classification of *anumāna* into *sāmānyatodṛsta*. It does not give any 'cognition' worth the name, and hence the question of its truth or falsehood does not arise. This brings us to an epistemological model, which closely resembles that of some logical positivist. The model excludes *sāmānyatodṛsta-anumāna* from the sphere of *pramāṇa* because they involve a leap from empirical to transcendent and are therefore type-crossing inferences. Consequently, it excludes the so-called metaphysical knowledge from the sphere of the proper knowledge¹³⁵.

Every other *pramāṇa* including inference (*anumāna*) is rejected. The reason assigned for rejecting inference is that there is not sufficient warrant for believing in the truth of the inductive relation or *vyapti*, which forms its basis. If inference is to be regarded as a *pramāṇa*, it must yield knowledge about which we can have no doubt and which must be true to reality. The ascertainment of this relation, even supposing that it actually exist, depends upon observed facts. *Carvākas'* argument against the authenticity of *anumāna* that expresses a dilemma of inference, if the inference is made from particular to

¹³⁴ Ibid., p. 676.

¹³⁵ Ibid., pp. 677-678.

particular (*viśesa*), that is to say if the inference is only analogical inference, then because the universal link between signifying analogy (*hetu*) and signified analogy (*sādhya*) is not stated in such inference. We cannot accept this kind of inference as an authentic means of knowledge. On the other hand, if the inference is made from universal (*Sāmānya*) to particular then the conclusion about the particular then as well as the conclusion about the particular fact is already contained in the universal *vyāpti*-statement, the inference is defective due to *siddhasāadhan*, that is to say, the inference is superfluous.¹³⁶

Cārvāka argued that superfluity of inference would not be serious fallacy if premises of the inference are proved to be true and the inference is known to be valid. But though the inference from universal to particular is valid, the universal *vyāpti*-statement, which is a premise of such inference, cannot be proved to be true. Therefore we cannot prove any inference to be sound. *Anumāna* is an inference in which conclusion is a proposition about some unobserved fact, made on the basis of some observed data. Hence this form of *anumāna* as accepted by Indian logician prior to *Dharmakīrti*.

However, the *Nyāya* logicians accepted the valid form of *anumāna* with universal *vyāpti*-statement as a necessary premise. But *Cārvāka* is questioning with regard to the justification of a universal *vyāpti*-statement. They claim that it is not possible to establish of the form ‘Whatever possesses *hetu*, possesses *sādhya*’ unless we observe all the past, present and future instantiations of existences and absences of *hetu* and *sādhya*. It falls under any of the following three cases:¹³⁷

- (1) Presence of *Hetu* and *Sādhya*.
- (2) Absence of *Hetu* and *Sādhya*.
- (3) Both presence and absence of *Hetu* and *Sādhya*.

To observe all the instantiations of the existences and absences of *hetu* and *sādhya* is impossible for any human being. So the sentence of the form ‘Whatever possesses *hetu* possesses *sādhya*’ cannot be established. *Cārvāka* is arguing that the induction can be authentic only if it is perfect induction. But any perfect induction cannot produce any ‘universal truth’. Therefore, it is impossible.

¹³⁶ Ibid., p.120.

¹³⁷ Ibid., p.120-121.

But *Nyāya* logicians are claiming that through inference we get true conclusions. We cannot remain alive if we do not infer, in fact we do make a good inference, and we have to accept that inference is an authentic means of knowledge. *Cārvāka* is criticizing the authenticity of inference but they believe that possibly they have understood the correct intention of the *Naiyayikas*. Thus the inference with 'possible' conclusion should not be confused with the inference with certain assertive conclusion. *Naiyayikas anumāna* is an inference with certain assertive conclusion, which according to *Cārvāka* cannot be proved to be authentic. Thus *Cārvāka* may practically use the tool of inference for making guess work and still express their disbelief in *anumāna* as authentic means of knowledge. The main question posing by *Cārvāka* is that how we can demonstrate that a particular *anumāna* is not only valid but also sound. The inference cannot do so unless the inference is valid and its premises are demonstrated to be true.

The *Cārvāka* response to the problem of justifying the inductive *vyāpti* relation consists in simply denying that inference really is a *pramāṇa*. Inference is dependent on universal concomitance (*vyāpti*). For instance to a valid means of knowledge this relation of universal concomitance must be able to be known by one of the other *pramāṇas*. However, it cannot be known by any of the *pramāṇas*, as an examination of each of them. Thus perception (internal and external) cannot establish such a universal relation, since we never perceive all past particulars and no future ones are ever perceived. Neither can inference establish the universal proposition. Since it is obvious that appealing to inference in order to justify inference itself means to enter into a vicious regress. Hence the *Cārvāka* conclude that since *vyāpti* cannot be known by means of any of the *pramāṇas*, it must be the case that inference is not a valid means of knowledge.

However, the *Cārvāka* do offer an alternative account of inference. They claim that it is either based on a former perception or it is a mistake. The fact that it is sometimes followed by successful results is just an accidental coincidence. In other words, the *Cārvāka* explains the validity of inference, as due to associations established during observation so that it is purely a psychological process with no implication whatsoever

of logical certitude.¹³⁸ It is not a logical one, and our reliance of such reasoning is due to psychological conditioning. It is sometimes accidentally successful, but there is no logical connection because, the *Cārvāka* argues, it has been established that we can never really know the *vyāpti* on which inference is based. It is also quite similar with Hume's problem of induction in the sense that induction cannot be logically justified at all because it is not really a process of reasoning but rather a habit of expecting what previously has already occurred in certain given circumstances to reoccur in similar circumstances.¹³⁹ Thus, the *Cārvāka* argues that if inference is a *pramāṇa* then *vyāpti* must be knowable. But *vyāpti* cannot be known. Therefore, inference is not a *pramāṇa*. This is an instance of *Modus Tollens*: 'If A then B; not-B; therefore, not-A'. In other words, the *Cārvāka* was using a valid deductive argument to establish the validity of inductive arguments. Because they were not using an inductive argument themselves it seems that the charge of self-contradiction has no basis.

The *Nyāya* School's response to this challenge was built upon their naïve realist ontology. They claimed that we can actually perceive (nonsensuously) the *vyāpti* relation. Jyanta Bhatta presents the *Naiyāyika* view in his *Nyāyamanjari* thus:

A man perceives that smoke and fire co-exist in the same locus. He comprehends by means of the method of difference that smoke is not present in the locus where fire does not exist. Then he synthesizes the results obtained by the joint method of agreement and difference and frames a judgment by means of the internal organ that smoke is the invariable concomitant of fire....

The relation of concomitance obtaining between the middle term and the major term may be determined by means of the universals inhering in them (these two terms). The relation of concomitance holding between smoke and fire amounts to that of concomitance subsisting between the universals of smoke and fire. The positive aspect of the relation may be grasped by extraordinary perception acknowledged by the *Naiyayikas*. But the negative aspect of the relation should also be grasped in order to grasp its invariable character. Therefore, we should also know that smoke does not exist where fire does not exist. ¹⁴⁰

In other words, their account of the method of inductive generalization is the following. First, we observe a uniform agreement in presence (*anvaya*) between two things A and

¹³⁸ M. Hiriyanna, *Outlines of Indian philosophy*, George Allen and Unwin (India) Pvt. Ltd., 1973, p. 190.

¹³⁹ David Hume, *An Inquiry Concerning Human Understanding*, secs. iv - v.

¹⁴⁰ Janaki Vallabha Bhattacharyya, trans., *Jyanta Bhatta's Nyaya-Manjari*, Vol. 1, Motilal Banarsidas: Delhi, 1978, pp. 252-253.

B; that is; whenever A is present B also is present. Second, we observe that there is a uniform agreement in absence (*vyatireka*) between A and B; that is, whenever B is absent A also is absent. Third, we do not observe any contrary instance in which A is present without B being present, or vice versa. Given these conditions we conclude that there is a relation of invariable concomitance between A and B.

However, we still have to establish that this relation is independent of any *upādhi*. Thus, in addition to the method of sampling by observation of agreement and difference, the *Naiyāyikas* also utilize the method of indirect proof (*tarka*). The idea here is that we can indirectly prove a universal proposition like “All smoke-possessing things are fire-possessing things” by disproving its contradictory proposition. In other words, if the universal proposition is false then its contradictory “Some smoke-possessing things are not fire-possessing” must be true. But this would be to claim that there could be smoke without fire, a conclusion, which is absurd because it denies the well-known causal relation between fire and smoke. Hence we can conclude that since “Some smoke-possessing things are not fire-possessing things” is obviously false, then it must be the case that its contradictory “All smoke-possessing things are fire-possessing” is true.

The *Naiyāyika* method for establishing *vyāpti* as outlined to this point is basically simple enumeration supported by *tarka*. But, of course, this is not a sufficient reply to *Cārvāka* skepticism at all. In an induction by simple enumeration we move from some observed cases of **As** and **Bs**. It is precisely this move that the *Cārvāka* challenges. The real question is how it is possible for us to now from the observation of some **As** as related to some **Bs** that all **As** are related to all **Bs**. The *Naiyāyika* reply here makes use of their doctrine of *sāmānyalakṣaṇa* perception, that is, the perception of a universal characterizing of all members of a class, one of whose members is presented.

As we know, Jayanta Bhatta refers to *sāmānyalakṣaṇa* perception, a kind of “extraordinary” perception in the *Nyāyamañjarī*. However, it is the Navya-Nyāya that we encounter the fuller account of *sāmānyalakṣaṇapratyakṣa* where it is classified as one of the three kinds of “extraordinary” (*alaukika*) perception. That *sāmānyalakṣaṇa* is the perception of a whole class of objects through the generic property (*sāmānya*) perceived in any individual member of that class. It is a type of real perception which is supported by the *Naiyāyikas* on the following grounds. Without it we cannot explain the knowledge

of universal propositions (*vyāpti*), which is presupposed in inference. When we perceive particular smokes and fires we also perceive the universal smokeness and fireness as its defining property inherent to them. There is to be some sort of contact (*sannikarśa*) with our sense. Thus the universal con-committance of smoke and fire is established through an extraordinary perception of the whole class of smoke-possessing things related to fire. This knowledge of the universal (*sāmānyajñāna*) is here the medium of sense-object contact, by which we have a perception of smokeness and of fireness when particular smokes and fires are perceived.¹⁴¹ It may be objected here that *sāmānyalakṣaṇa* perception would make each of us omniscient. If all the objects of a class are known with the perception of any of them, we should know all knowable objects when we perceive anything of the world as belonging to the class of knowable. The *Naiyāyikas* reply is that in *sāmānyalakṣaṇa* we perceive only one member of a class as an individual with its specific and generic properties, while the other members are known as possessing the generic property or the universal alone. Hence we cannot expect to have that full and detailed knowledge of all things, which is implied by omniscience.

Of course, this answer did not satisfy the *Cārvākas* at all. They simply replied that it is not true that we perceive universals and through them general classes. We only perceive particulars and only those particulars available to our ordinary perception. The *Naiyāyikas* object: “So how can there be knowledge of all smoke as smoke and of all fire as fire, without the help of the connection based on a common feature?” But *Cārvāka* answers that this begs the question, for we do not in fact perceive all smokes and all fires. Moreover, the particular smokes and fires that we do perceive exhibit no common feature and hence even less so would the innumerable members of the class of smokes and the class of all fires.

Again the *Nyāya* view of *sāmānyalakṣaṇa* has been severely criticized and finally rejected by the Vedānta. According to it, *sāmānya* or the universal is a group of essential and common attributes belonging to a number of individuals. While the universal, as such, may be perceived along with the perception of an individual, it does not give us a perception of all the individuals possessing the same universals. Nor is there any valid ground to believe that in perceiving one individual we must perceive all other

¹⁴¹ *The Problem of Induction in Indian Philosophy*, Author(s): Roy w. Perrett, Source: *Philosophy East and West*, Vol.34. No. 2, (Apr., 1984), pp. 161-174.

individuals belonging to the same class. Thus in inference, the fire from the smoke, it is sufficient if we know 'smokeness' as related to 'fireness'. It is not at all necessary for us to know that all smokes are related to fire. In fact, there would be no need of inference in a particular case if all were known.

When we know an individual as belonging to a certain class, we know the universal or class-essence underlying it. To know the universal is to know a character or group of characters, which belongs to all the members of the class. So in knowing the universal we know all the individuals of that class – past, present and future as participating in that universal. Again, knowledge of the class seems to be implied in any generalization. When from such particular cases as 'A is mortal', 'B is mortal', 'C is mortal', and so on, we conclude that 'all men are mortal', here that mortality is true of that class of men. Now the question is: How do we know anything about the whole of a class of things from the observation of some of its members?

To sum up, we find that Indian logicians approached the problem of inductive generalization basically at three levels. At the first level, inductive generalization was approached negatively. There was more concentration on inductive fallacies than on the nature and adequate method of inductive generalization. At this level the fallacies of inductive generalization and the fallacies of analogical reasoning can be assimilated because analogical reasoning and inductive generalization have some important features in common. The *Nyāya* and Buddhist logicians who flourished before *Dharmakīrti* seem to have approached induction in this way.

At the second level, we have more concentration on the method of induction, but inductive generalization is viewed more as an intuition or an extra-ordinary perception than as an inference.

At the third level, too, there is concentration on the nature and the method of induction but here induction is viewed more as a kind of reasoning than as intuition. Induction in this form is different from perfect or complete induction. It is different from demonstrative inductive reasoning. It rather stands for probabilistic reasoning through

which one tries to arrive at or support some general truth on the basis of some particular truths, in most cases observational truths.¹⁴²

However, this question is explained in Western logic by inductive inference. The *Naiyāyikas*, however, explained the knowledge of the general proposition by perception of an extra-ordinary kind. The *Vedāntins*, on the other hand, argue that a generalization is the statement of an invariable relation between universals and that is known through the observation of their concomitance in one or more instances. They claim that general propositions like 'All men are mortal', or 'All smoke-possessing things are fire-possessing things' are justified because by perceiving particular instances of man and mortal, or smoke and fire we are enabled to establish a relation between the two universals 'manhood' and 'mortality', or 'smokeness' and 'fireness'. It is only this relation that can supply the foundation of a general relation between all smoke-possessing things and all fire-possessing things, just insofar as they are respectively constituted by the universal smokeness and fireness.¹⁴³

However, the Vedanta view of generalization thus corresponds to the Western logic, what is known as 'intuitive induction'. It is explained as a 'process by means of which we apprehend a particular instance as exemplifying an abstract generalization'. But *Nyāya* philosophers are claiming that if the abstract generalizations are exemplified in particular instances then we must admit that there is no room for any induction or inference or reasoning in it. So in order to avoid the misunderstanding, it is better to characterize our knowledge of the general principles of logic and mathematics as intuition than to call it an intuitive induction. Our ordinary generalizations, however, are different from the abstract principles of logic and mathematics. The principles of logic and mathematics are truths about certain universal concepts, whereas ordinary generalizations are truths about classes of things. The propositions 'All men are mortal', or 'All smoky objects are fiery' are empirical generalizations in the sense that these are assertions about whole classes of things, which are true, and that these are arrived at from observation of particular instances. Here those propositions do not really convey a necessary relation between manhood and mortality, or between smokeness and

¹⁴² P.P. Gokhale, *Inference and Fallacies Discussed in Ancient Indian Logic* (with special reference to Nyāya and Buddhism), Sri Sadguru Publication, 1992, pp 224-225.

¹⁴³ S.C. Chatterjee, *The Nyaya Theory of Knowledge*, University of Calcutta, Second Ed. 1950, pp. 212-213.

fireness, but that mortality is true of the class of men, or that all smokes are connected with fire. But the question arises what is the nature of the process of knowledge that is involved when we generalize from 'some' to 'all' in a logically valid way? Is it a kind of induction? If so, it must be either 'perfect induction' or 'Induction by simple enumeration'.¹⁴⁴ A 'perfect induction' is one in which 'from the consideration of each of the members of a limited class we pass to a generalization concerning all the members of that class'. This is exemplified when on examining every table in a class one says 'All the tables in this class are white'. It is called a perfect induction because a summary of a number of observed facts is not an induction at all. To call it an induction, be it perfect or summery, is to misjudge its epistemic character as inferential. Hence our knowledge of a general proposition like 'All men are mortal' cannot be called a 'perfect induction', even if it were possible for us to examine all men. But that is not possible as a matter of fact, since in man we have not a limited, but an unlimited class that has 'an infinite number of members'.

However, an empirical generalization like 'All men are mortal' can be explained by 'Induction by simple enumeration'.¹⁴⁵ Generalisation from a number of examined instances which are not assumed to constitute all the instances of the given class is now usually known by the name 'Induction by simple enumeration'. Such induction may, therefore, be put in this form: 'A, B and C are mortal; therefore, all men are mortal' but this is not a form of valid inference. It is obviously violates the general rule of inference that we must not go beyond the evidence, since in this inference the conclusion makes a statement about all men on the ground of what is observed in some men. Further, if it were a form of valid inference, it would validate any argument that might be put in this form, just as the forms of deduction guarantee the validity of a reasoning that may be put in any of them. While, however, we accept the argument 'All men are mortal, because A, B, C are mortal', we do not acquiesce in the proposition 'All men are white, because A, B, C are white'. Because, if we examine the two arguments we shall see that the distinction between them is this. In the first, mortality, which is found in some men, is predicted of all men. In the second, whiteness, which is observed in some men, is predicted of all men. But then, we find A, B, C to be mortal, not because they are A, B, C, but because they are men. On the contrary, we know that A, B, C are white because they

¹⁴⁴ Ibid., p. 215.

¹⁴⁵ Ibid., p. 216.

are A, B, C, and not simply because they are men as such. This statement that while mortality is related to the essential nature of A, B, C, but whiteness is not so related to them. That individual men like A, B, C possess a certain essential common nature which can be found in all men is borne out of the fact that we put all men together into the class 'man' and exclude all other animals from that class. If then we find that mortality is related to the essential nature of some men, we know that all men must be mortal. That is, we know all men to be mortal when we know that mortality belongs to the essential nature of some men like A, B, C. To know mortality to be related to the essential nature of some men is just to know that it is related to all men or the class of men. 'What is related to the essential nature of some must be related to all men' is a truth which is known directly or immediately, and for which we require no inference or reasoning. Hence our knowledge about the whole class is here an intuitive knowledge due to the knowledge of the class essence or the universal. It cannot be said that the knowledge of the class-essence or the universal is got by inductive inference. Observation of and experiment on things help us to find or discover the universal that is in them, but not to make or construct it out of them. And when by observation and experiment we find that the universal or class-essence is related to something, we know at once that all the members of the class are related to those things. So simple enumeration is not, then, to be regarded as a process simply of counting; it is a counting of instances recognized as having certain properties in common. The inference is dependent upon recognition of resemblances.¹⁴⁶

According to the *Naiyāyikas*, it is the perception of a whole class as related to an attribute, which is simultaneous with the perception of the class-essence as so related. To distinguish it from ordinary sense perception they call it *alaukika* or extra-ordinary perception. If this be, as it very likely is, so, what is known as inductive inference may be reduced to the *Naiyāyikas sāmānyalakṣana* perception in the sense of intuition of a general proposition through the knowledge of the class-essence or the universal.

¹⁴⁶ Ibid., p. 217.