The history of the theory of inference in Indian logic and particularly in Buddhist logic may be regarded as a development from the empirical interpretation of inference to the rationalistic. While Western logicians devoted themselves to demonstrate formal validity of the relation between the terms of inference, Indian logicians in the early schools had pursued realistic truth of knowledge. According to them probative efficiency of the reason (hetu) should be apprehended not in a universal proposition, but in a concrete, empirical example, which can illustrate the relation of the probans and the probandum. Even in the logic of Dignāga who first noticed the import of universal concomitance of the probans and the probandum (vyāpti), consideration given to the actual instances outweighed that to the abstract propositions. Dignāga showed his empiricist attitude toward logic in his theory of three conditions of the reason (middle term), though he interpreted the example as the major premise of an inference by virtue of the very theory. This fact can be clearly seen in the following two rules of inference which are derived from his theory of the triple-conditioned reason and vitally important with regard to the problem of universal concomitance. (1) The middle term must be an empirically proved fact: He prescribes in the first condition of the reason that the middle term must subsist in the minor, and it means that the middle term must be recognized by both the parties of debate as a proved fact. It is clear, therefore, that an inference which drops the reference to a fact, i.e., a hypothetical inference is not regarded as a true inference. Infringement of this rule causes the fallacy of the unreal reason (asiddhahetu). (2) The middle term should not be the particular essence of the minor term, or
in other words, an inference becomes inconclusive when the middle term belongs exclusively to the minor: The second and third of his three conditions say that the reason must abide only in the homologous cases (*sapakṣa*) and never in the heterologous cases (*vipakṣa*). If the reason belongs exclusively to the minor term, as in the case of audibility which is supposed to prove momentariness of sound (minor term), no homologous cases which are audible and momentary are available. In this case we cannot ascertain validity of the major premise, 'Whatever is audible is momentary'. Infringement of this rule brings about the fallacy of the uncommon inconclusive probans (*asadharanānaikāntikahetu*), and gives birth to a tremendous difficulty in the problem of *vyāpti*. When no homologous cases are available, an Indian logician, in order indirectly to prove his conclusion, has to point out logical incompatibility of the contradictory supposition by means of the *reductio ad absurdum* (*tarka*), in which he assumes for argument's sake the false probans, thus necessarily using a hypothetical inference and committing the fallacy of the unreal reason. Dignāga insisted on these two rules and consequently condemned hypothetical inference to be false knowledge. The more realistic Naiyāyika also never consented to accept the *tarka* as an independent instrument of true knowledge.

How can universal concomitance of the probans and the probandum be ascertained? This was the greatest problem left unsolved by Dignāga. When we try to prove the validity of a *vyāpti*, or the major premise, of an inference, we need another inference; to prove the *vyāpti* of the second inference we need the third, and so on *ad infinitum*. On the contrary, if we substantiate the *vyāpti* by repeated experiences of the individual instances, as the empiricist does, we commit the mistake of determining universality by means of finite experiences. Furthermore, abstract knowledge like the relation between existence and momentariness is never grasped by perceptive experience. Dharmakīrti proposed a sort of transcendentalism and declared that universal concomitance of the probans and the probandum is ascertained only when the relation between the probans and the probandum is based on either of the two transcendental
principles of identity and causality. Yet he condemned, more insistently than Dignāga, the unreal reason to be fallacious; nor he accepted the reductio ad absurdum as the logical principle for determining vyāpti.

It is Jaina logicians who first proclaimed that the very reductio ad absurdum was the only principle for determining universal concomitance, and that no reference to the example was necessary for it. The Jaina view is called the theory of intrinsic determination of universal concomitance (antarvyāptivāda), because, according to it, universal concomitance is nothing but the inner relation of the two concepts which is apprehended in the subject of inference (minor term), without any reference to external cases. On the other hand the standpoint of the Buddhist logicians, including Dharmakīrti, and of the Naiyāyika is named the theory of external determination (bahirvyāptivāda) as vyāpti is in this theory apprehended outside the subject of inference. The theory of antarvyāpti is made possible only when the terms of inference are regarded not as individual facts, but as the concepts determined in their denotations and therefore always opposed by their contradictory concepts. This interpretation of the concept was the achievement of the Buddhist theory of apoha. Thus the antarvyāptivāda owes much to the apohavāda, and the traditional explanation which includes under the name of bahirvyāptivāda both the Buddhist logicians and the Naiyāyika is sometimes misleading.

Later on Rantnakīrti, an eminent Buddhist logician in 10th century A. D. actually made use of the theory of intrinsic determination in order to prove the Buddhist doctrine of universal momentariness. His brilliant student Ratnakaraśānti openly called himself an antarvyāptivadin. When a Buddhist tries to prove that whatever is existent is momentary, the probans, no matter what it may be, always belongs exclusively to the subject of inference; thus he commits the fallacy of the uncommon inconclusive reason. The only left way of proof is to indicate absurdity of the view that the existent is non-momentary, or permanent, by means of the reductio ad absurdum and to establish the original conclusion indirectly. For the very purpose a Buddhist logician has to argue on the hypothesis
of the permanent which is not real to him, and it makes him commit the fallacy of the unreal reason. Therefore he has to approve hypothetical negative inference to be valid, contending that the unreal and uncommon reasons are not always fallacious. Ratnakīrti as well as Ratnakaraśānti called the tarka or a form of hypothetical negative inference prāsaṅgapramāṇa or viparyayabādhakapramāṇa, clearly recognizing the method as a valid instrument of knowledge.

In order to prove the Buddhist theory of universal flux by a prāsaṅgapramāṇa, Ratnakīrti formulated his argument into the following syllogism: ‘Whatever lacks causal agency in succession or simultaneity, has no causal efficiency, as a rabbit’s horn. The supposed permanent entity has no such agency. Therefore the supposed permanent entity has no causal efficiency,’ (1) (i.e., it is not existent.) Ratnakaraśānti, explaining this syllogism of his teacher, argues as follows: Existence consists in causal efficiency, as no other definition of it is acceptable. And causal efficiency exercises in succession or simultaneity, i.e., existence is pervaded by succession and non-succession. Succession and non-succession are the mutually contradicting concepts, and cannot be predicated of the permanent entity. Why? Because the permanent which has an identical nature in previous and succeeding moments cannot have the two contradictory attributes. If the permanent entity exercises gradually in succession and produces the effect after some duration, there must be in the duration the moment in which causal agency is exercising and other moments in which it is not working. Then, it ensues that all the effects abide in the one moment, and thus the significance of causal efficiency in succession falls to the ground. But when all the effects abide in one moment it is clearer that the two contradictory natures, existence of causal agency and its non-existence, are found in one and the same permanent entity, which fact is quite absurd. Therefore succession and non-succession cannot exist in the permanent which maintains identity for a definite duration. As we cannot recognize in the non-momentary entity the pervader (vyāpaka), succession and non-succession, it necessarily follows that the pervaded, causal efficiency, cannot

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abide in it. Thus we are sure that whatever is existent is momentary.

The Naiyåyikas vehemently attacked the above-mentioned arguments of the Buddhists, and the most important points of their criticism consisted in pointing out the fallacies of the unreal and the uncommon inconclusive reasons. With regard to the first fallacy, Ratnakårti replies: When we set forth a real thing as the subject and predicate an imaginary attribute of it, then the proposition is false. But the minor premise of which the predicate is the negation of an unreal attribute of a hypothetically supposed subject, is logically valid. After all you cannot deny the validity of an unreal subject. For if you negate it, you predicate the negation of the very subject, thus forming yourself a proposition. The second fallacy arises from that the homologous instance in the above-mentioned syllogism, a rabbit's horn, cannot be regarded as valid from the realistic standpoint of the Naiyåyika. The asådhårañånaikåntikåtva is unavoidable. But Ratnakåra-śånti boldly discarded the example. The example is, he opines, useful for the unintelligent people to understand universal concomitance only when it is beforehand available by virtue of the reductio ad absurdum. But when universal concomitance is understood in the subject of inference by the quick-witted persons, what is the use of the example? Ratnakårti set forth the example only for the unintelligent people. In the same way did Dignåga prescribe the rule forbidding the fallacy of the uncommon reason only in consideration of dull intellect. However, if we understand vyåpåti in the subject itself, all the trouble about the fallacy is thrown away. The uncommon reason is quite valid if it satisfies the principle of vyåpakånapalambha. Even in the case of audibility of sound, the subject of inference, sound, is a particular sound which is perceived at the present moment, while audibility is common both to the perceived and the unperceived sounds. Thus the unperceived sounds can come in as the homologous example. Therefore 'audibility' as well as 'existence' is a perfectly valid probans.

(1) Six Buddhist Nyåya Tracts, Kåñåbhañgasiddhi, p. 21, 1. 12 ff; p. 24, 1. 3, etc.
(2) ibid., p. 55, 1. 8 ff. (3) op. cit., Antarvyåptisamarthana, p. 103.
(4) op. cit., kåña., p. 62, 1. 8 ff. (5) op. cit., Antar. vyå., p. 112, 1. 5—p. 113.