

# **The foundation of inference in the Jaina tradition of Prabhācandra**

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## **Abstract**

The characterisation of truth-preserving arguments, notably conceived as the tool to convince interlocutors in a debate, was a core issue in the Indian paradigm of philosophy and received the detailed attention of scholars from different philosophical traditions. This paper presents a Jaina theory of inference of the 11<sup>th</sup> century, stressing its divergence with other traditions, especially Buddhism. This is first aiming at a presentation of the minimal set of statements considered as necessary to bring adhesion. Second, this paper presents the Jaina solution to the question of the establishment of the correctness of truth-preserving arguments, first by means of a non-inferential source of knowing, second by means of considerations on the structure of the inferential reasoning itself.

Keywords: Inference. Argumentation. Necessity. Jainism. Prabhācandra. Foundations. Tarka. Buddhism.

## **Introduction**

Inferential reasoning is the tool to acquire new knowledge through reasoning and the stated form of such an inferential reasoning is a truth-preserving argument by means of which it is also possible to bring awareness to somebody else. The determination of truth-preserving arguments, notably conceived as the tool to convince interlocutors in a debate, was a core issue in the Indian paradigm of philosophy and received the detailed attention of scholars from especially three philosophical traditions, namely the Naiyāyika, the Buddhist and the Jaina.

First of all, inference is the means to acquire new knowledge through the careful examination of what can be concluded with certainty from previously acquired knowledge. A classic example is to infer that something is not permanent from the already-known fact that it is a product. Because by definition, every product has been made, therefore it has parts that have been arranged, and that philosophers from the different schools agree on the fact that an arrangement cannot be permanent.

Second, a nice peculiarity of the Indian framework of philosophy in the classical period is that the different traditions agreed on the possibility to define the standards of an ideally organized rational discussion the outcomes of which are necessary true statements. From this, the philosophers of all traditions offered decision procedures on the correctness (respectively incorrectness) of truth-preserving arguments and they succeed in developing a common inter-doctrinal framework of argumentation.

This paper is concerned with the Jaina contribution on these issues, especially as it is found in the work of Prabhācandra, a Digambara scholar active in the turn of the 10<sup>th</sup> century (980-1065) who wrote the *Sun [that opens] the Lotus of the Knowable* (*prameyakamalamārtaṇḍa*, henceforth PKM). The PKM is a commentary on the *Introduction to Philosophical Investigation* (*parīkṣāmukham*, PM), a treatise composed by Māṇikyanandin (9<sup>th</sup> c.). In turn, the PM is a methodical and aphoristic presentation of Akalaṅka's philosophy (720-780). One interest of these texts lies in the fact that this Digambara lineage of authors challenged Dharmakīrti's conceptions (7<sup>th</sup> c.) and got engaged in a discussion with Buddhist authors when developing their own theories of inference and argumentation. More precisely, Jaina authors borrowed on such a large scale from Dharmakīrti that it was important to partake from the Buddhist tradition and develop a theory of knowledge easily recognizable as being specifically Jaina. Akalaṅka is the one to offer "a doctrine of source of knowing (*pramāṇa*)<sup>i</sup> typical of Jainas".<sup>ii</sup> But the presentation of Akalaṅka is very concise and unsystematic. Therefore, it became the task of later thinkers, such as Vidyānanda (9<sup>th</sup> c.) and Māṇikyanandin, to present a more structured version of Akalaṅka's innovative theory; as well as the task of even later thinkers such as Prabhācandra to present this in a developed way including precise references to the discussions with the Buddhists, especially quoting Dharmakīrti's *Essay on Knowledge* (*pramāṇavārttika*, PV) and *Auto-commentary on the Essay on Knowledge* (*pramāṇavārttikasvavṛtti*, PVsV).

There are many layers of discussion in the PKM. This paper is aiming at focusing on those taking place after the 8<sup>th</sup> century, where the input of Prabhācandra is fully appreciable. This is done from section 2. As for section 1, it is a necessary introduction on the Jaina general conception of inference, in which Jaina authors mainly refer to the *Aphorisms on Logic* (*nyāyasūtra*, NS) of Gautama, the Naiyāyika text of the 2<sup>nd</sup> century CE which is considered as the root text for logical considerations in classical India. Three remarks are in order. First, it is not possible to introduce Jaina theories of inference without introducing as well the Buddhist and Naiyāyika ones. Whereas this statement is true for all philosophical tradition, it is especially vivid in the Jaina one, where borrowings form the very core of their doctrines. Second, the lineage of Jaina authors dealt with in this paper also got engaged in later interesting discussions with the Naiyāyika tradition on the question of inference, but this is not included within the scope of this paper. Third, the input of Prabhācandra will be apparent mainly in section 2, 3 and 4.

## **1. The Jaina conception of inference: some basics**

### **1.1. The canonical display form of an inferential reasoning**

First of all, the NS taught us that the only good way to express a truth-preserving argument consists of a group of five statements:

NS.1.1.32. [Statement of] the thesis, the evidence, the account, the application and the conclusion are the constituents [of inference].<sup>iiiiv</sup>

This is in this form that Māṇikyanandin introduces the stated form of an inference, with the following example<sup>v</sup> in PM.3.65:

[Thesis] Sound is impermanent  
[Evidence] Because it is a product  
[Account] Whatever is such (a product) is alike (it is impermanent), such as a pot  
[Application] This (sound) is a product  
[Conclusion] Therefore it is impermanent<sup>vi</sup>

This form of argument is an extended version of the *modus ponens*:

$$\frac{P, P \rightarrow Q}{Q}$$

And can be reconstructed as follow:

[Thesis]  $a_1$  is Q  
[Evidence] Because  $a_1$  is P  
[Account] Whatever is P is also Q, like for  $a_2$   
[Application] Likewise,  $a_1$  is P  
[Conclusion] Therefore  $a_1$  is Q

In this Naiyāyika presentation, it seems that both bottom-up and top-down approaches are used. More precisely, the bottom-up approach consists in the three first step, goes from conclusion to premises and insists on the justifications to be produced in order to be legitimize to claim a given thesis. As for the top-down approach, it consists in the three last steps, goes from premises to conclusion and insists on what can be concluded from given previous knowledge. According to the Nyāya, both these focuses bring different inputs and are required steps in order to be ensured of the adhesion of the interlocutor, since it has been said:

NS.5.2.12. Defective is [the inference] in lack of any of its constituents.<sup>vii</sup>

Here comes the first noticeable characteristic of the Jaina conception of inference: in the Jaina tradition from Siddhasena's 7<sup>th</sup> c. *Guide of logic (nyāyāvatāra, NA)*<sup>viii</sup>, only the first two statements are considered as necessary steps in order to be ensured of the adhesion of the interlocutor. The three other steps are conceived as useful merely for pedagogical purposes. In Māṇikyanandi's terms:

PM.3.46. These (account, application and conclusion) may be for the understanding of those who have little knowledge and for this purpose may be discussed only in the Śāstra, but these are quite unfit to be used in logical discussions.<sup>ix</sup>

In other words, in a situation in which psychological factors are not relevant, because one can make the assumption that the interlocutor will always perform the best argumentative move from a given argumentative situation, then it is sufficient to state thesis and evidence in order to be ensured of the adhesion of the interlocutor.

In this framework, stating the evidence pertains to stating that the already-known property, called ‘evidence-property’ (*hetu*) is ascribed to the very same object that the property to be inferred, called the ‘target-property’ (*sadhya*). In the above-mentioned example, stating the evidence pertains to stating ‘sound is a product’. The fact that there is a probative value of the statement of evidence is clear, since evidence is either the very justification of a claim, or the trigger that prompts a conclusion. To come back to the example, since everybody agree that whatever is a product is also impermanent, then agreement on the fact that sound is a product is the very trigger/justification of the agreement on the fact that sound is impermanent. But how is there a probative value of the statement of the thesis?

## 1.2. Stating the thesis

Jaina philosophers have to answer this question, since the Buddhist Dharmakīrti holds in his PV.4.15-27 that the thesis-statement, although it indicates the goal of evidence, is by no way a necessary part of inference as a source of knowing:

PV.4.15. The statement of that [thesis] which is powerless is explained as having the goal of evidence (*hetvartha*) as its object.

PVBh.488.5-6. But for us, the presentation of what is to be established is [regarded] as having as [its] object the goal of evidence and is not [regarded] as having a probative value.<sup>x</sup>

First of all, stating the thesis is making explicit the goal of the inference at stake. Second, it is possible that Dharmakīrti is here referring to a Jaina theory according to which if one does not state the fact that the target-property is ascribed to the object under discussion, then evaluating an inference would be like seeing an archer touching a target without knowing if it was or not the intended target. The first mention of this argument is found in Siddhasena’s NA:

NA. 14. [...] the pronouncement of the thesis has to be made here as showing the domain of the evidence-property.

NA.15. Otherwise, for [a person] to be apprised, who is confused regarding the domain of the evidence intended by the proponent, the evidence might appear to be suspected of being contradictory, just like...

NA.16. ...for a person watching an archer's skill, the archer who hits without the specific mention of the target [is endowed with both] skill and its opposite.<sup>xi</sup>

Now, Dharmakīrti pursues by stating that this stating of the thesis is one condition of possibility of the mere performance of an inferential process, exactly in the same way than doubt and desire to overcome this doubt. For example, doubt is a condition of possibility of inference, since it is not plausible that someone who directly sees an elephant is in position to infer the existence of this elephant from the sound of its trump. Focusing on the Jaina account, it is noteworthy that a specific Jaina condition of possibility of inference, like of any indirect cognitive process, is for the epistemic agent to be in a special state of awareness called 'destruction-cum-subsistence' (*kṣayopaśama*), which is a state in which *karma* obstructing the inherent capacities of the soul has been only partially removed.

These psychological conditions are a fact. But if stating them was a formal requirement, then stating a truth-preserving argument would be an infinite process. Indeed, it is always possible to imagine new psychological conditions. These conditions have to be stated separately and not be considered as part of the argument. With this, Dharmakīrti reminds us that to be a condition of possibility of a probative tool does not equate to *be* a probative tool. What is more, the statement of the thesis cannot be of probative relevance, simply because, since it is precisely what is to be proved by means of inferential reasoning, if it had a probative strength, then the argument would be a circular one. On this precise line of argumentation, and contrarily to his usual practice, Prabhācandra does not quote Dharmakīrti and only glosses Māṇikyanandi's verse PM.3.35, according to which, in the lineage of Siddhasena, the statement of the thesis is indeed a required argumentative step, because it dispels doubts concerning the abode of the target-property, which is the goal of the inference at stake.

Yet, Jaina philosophers do stand against Dharmakīrti's position from another line of argument in PM.3.36, where it is stated that Buddhist philosophers cannot disagree on the necessity of the statement of the thesis, because otherwise they cannot substantiate their own doctrine. This Buddhist doctrine, as well as its Jaina criticism, will be considered at length in section 2.2. For the time being, sufficient is to know that according to Buddhist philosophers, the fact that the evidence-property is ascribed to the case under consideration (*pakṣa*), that is to say the object to which are ascribed the inferential properties, is a necessary component in the evaluation process of the validity of evidence.<sup>xii</sup> On the contrary, Jaina philosophers will argue that the evaluation process of the validity of evidence is concerned with validity properly speaking only when no reference is made to the case under consideration (*pakṣa*), similar cases (*sapakṣa*) and dissimilar cases (*vipakṣa*).

To conclude on this topic, a brief survey of the evolution of the form of reasoning makes it evident that there has been a decision to bring it to its minimal form – that is to say to keep only the elements having a *probative* value, as well as a decision to discriminate and treat separately psychological conditions from more formal ones. In this process, Shah and Mookerjee remark that the Jaina approach is the one that goes the furthest.<sup>xiii</sup> More precisely, the old Nyāya advocated a ten-membered reasoning, in which explicit psychological conditions like doubt and desire to know were required. Then the NS brought it to five conditions linked only with structure of the argument. In this canonical form, redundancy has been pointed by different traditions. Especially, the Buddhists Dharmakīrti claimed that statement of the account accompanied either by statement of evidence, either by statement of application is sufficient. As for Jaina philosophers, they recognized only statement of the thesis and of evidence as necessary argumentative moves – although they also recognize that for pedagogical purposes, up to ten statements can be made.

A noticeable aspect of the Jaina approach is their rejection of the statement of the account, that is to say of the statement that “whatever is P is also Q, like for  $a_2$ ”. This statement is a pivotal one, to say the less, since it contains the indication of the necessary relation that holds between the evidence-property and the target-property. But this statement is also a problematic one, since it contains the displaying of an example. In classical India, there were big controversies between those who considered the indication of an example as probative, and those who did not. The idea behind the requirement of an example can be tracked back to the need to show that there is at least one case other than the case under consideration in which the evidence-property occurs when the target-property also occur. This need can be explained in the following way: if the object under consideration is the only *locus* of the evidence-property, one can never be sure that there is an essential (and not only an accidental) relationship between the two properties. The classical example is that “sound is eternal, because it is audible”. In this example, since sound is the only audible thing, we cannot find any other example of another audible thing that would be eternal also. Therefore, the argument is not a convincing one, because nothing is known on the relationship between audibility and eternity. In other words, the same premises could as well lead to the claim of the opposite, namely that “sound is non-eternal, because it is audible”. What is more, it is also possible that the idea behind the requirement of an example can be tracked back to an old theory of drawing inferences from paradigmatic examples. For example, in order to know whether grains of rice are cooked or not, it is not required to taste each of them. Indeed, tasting a few of them is sufficient to infer from their state the state of the other ones, because they are all under the same conditions. Therefore, rejecting the step of the account, which includes the indication of an example, represents a step further towards only formal considerations. But this was only possible from the Jaina perspective, because only they could take the liberty of rejecting also the need to indicate the special relationship between the two inferential properties. Indeed, according to Jaina philosophers, this special relationship is known thanks to another, non-inferential, source of knowing. The causes, modalities and consequences of this position will be considered in the next section.

## 2. Jaina philosophers and the problem of induction

### 2.1. Prabhācandra's criticism of the Buddhist characterisation of evidence

As already indicated, the fact that arguments in philosophical debates are displayed on an inter-doctrinal level calls for the need of a decision procedure such that every participant agree on the fact that a given inferential reasoning is (respectively is not) a truth-preserving argument. In this framework, this takes the following form: the assertion of a stated inference is traditionally followed by a regulated debate focusing on the characteristics of the evidence-property, aiming either at proving that the piece of evidence is a probative one, either at refuting that it is. Therefore, logical treatises are concerned with the question of the necessary and sufficient set of criteria from which a debater is justified to claim that a given piece of evidence is probative, where the statement of evidence is probative if and only if the evidence-property is necessarily co-present (respectively co-absent) with the target-property. In other words, logical treatises tackle the following question: how can we know that the two inferential properties are necessarily, and not only accidentally, linked? How to be certain that 'being a product' ensures 'enduring changes' not only in a subset of every possible situations? With respect to this problem, traditionally called the problem of induction, Jaina philosophers engaged into discussions both with Buddhist and Naiyāyikas philosophers. The PKM is a mine of such discussions.

First of all, the question whether it is possible to know that all Ps are also Q from the knowledge that all  $a_1, a_2, \dots, a_n$  are Ps that are also Q is phrased the following way in the Indian tradition: Is there an invariable concomitance (*vyāpti*)<sup>xiv</sup> between the evidence-property P and the target-property Q? The Jaina answer to this question is that the only necessary and sufficient condition to be ensured of the presence of an invariable concomitance is precisely to know the 'impossibility [for the evidence-property] to be otherwise' (*anyathānupapatti*) than in the presence of the target-property. In Māṇikyanandin's words:

PM.3.15. Evidence is characterised by being inseparably connected with the target-property.<sup>xv</sup>

According to Balcerowicz, this new Jaina conception of what counts as good evidence is probably to be tracked back to a lost treatise, the *Torment of the triple characteristic* (*trilakṣaṇakadarthana*), an early 8<sup>th</sup> century work of Pātrasvāmin.<sup>xvi</sup> A look on Prabhācandra's commentary to this verse also makes clear the fact that the Jaina theory of impossibility otherwise is introduced in reaction to the Buddhist theory of the triple characteristic of evidence, as well as to the Naiyāyika theory of its fivefold characteristic.

As is well-known, the Buddhist theory of the triple characteristic of evidence developed by Dignāga (480-540) is an attempt to discriminate between accidental and necessary relationships, by stating that an evidence is a good one if and only if it is:

- (i) Present in the case under consideration (*pakṣa-dharmatva*)
- (ii) Present at least in one similar case (*sapakṣa-sattva*)
- (iii) Absent in dissimilar cases (*vipakṣa-asattva*)<sup>xvii</sup>

And Naiyāyika philosophers add the two clauses according to which it should also be:

- (v) Not contradicted by perception or another non-inferential source of knowing (*abādhiṭa-viṣayatva*)
- (iv) And not contradicted by another inferential evidence (*asat-pratipakṣatva*)<sup>xviii</sup>

More precisely, the first clause prevents from cases in which the necessary relationship is not instantiated; the second clause is meant to avoid a situation in which one of the means enabling to check upon the relevance of the necessary relationship is absent; and the last three clauses prevent from cases of inconclusiveness, that is to say cases in which there is a counter-example.

Facing this tradition, Prabhācandra, like many philosophers from different schools from the 8<sup>th</sup> century onwards, argues that the three signs are neither sufficient, nor necessary in order to be assured of the correctness of the inferential evidence. When commenting upon Māṇikyanandin's PM.3.15, Prabhācandra first shows that there are situations in which the three signs do not qualify the evidence-property, and yet it is a correct evidence-property. Here, Prabhācandra refers to the classic example of the audibility of sound. More precisely:

PKM.355.2-3. [...] Because for example audibility, which is present in no similar case, is admitted as a probative evidence in relation to the target-property 'being impermanent' in the case of the sound.<sup>xix</sup>

Let us depart from the following reconstructed inference:

- [Thesis] Sound is impermanent
- [Evidence] Because sound is audible
- [Account] Whatever is audible is impermanent (no example available)

In this argument, the evidence-property is considered correct by the Buddhists, even though the three marks of good inferential evidence are not present. What is missing is the second condition, that is to say that the evidence (being audible) is not in similar objects. This is due to the fact that no other thing than sound is audible. Consequently, no other thing than sound can be audible and also impermanent. This example is pointing at a problem affecting the second clause of the theory of the triple characteristic, which is the fact that this clause is meant to avoid a situation that is, to use Western contemporary terms, *formally* valid. More precisely, the only ways to defeat someone who claims "this is impermanent, because this is audible" is either to attack the premises by showing that this is not audible (first condition); either to attack the relationship between being audible and being impermanent, which can be done only by showing that there is at least one case in which it is true that something is

audible and not impermanent (third condition). But nothing on the relationship between the two properties can be concluded from a case in which it is not true that something is audible. In other words: it can perfectly be the case that there are no similar case and that there is a necessary relationship between the evidence-property and the target-property. Now, if Dignāga did not accept it as a situation ensuring the presence of a good evidence although it is a formally valid situation, it is probably because he had in mind persuasiveness and not formal validity and that in this situation, the evidence is not a persuasive one, because as we have already indicated, when the evidence is present only in the object under consideration, and in no other object, it is difficult to know whether the connection between the two properties is an accidental one or an essential one. What is more, this requirement is the sign that Dignāga could not yet free himself from the old model of inference from sampling, that is to say inference from a paradigmatic case. In conclusion, even if Indian philosophers made at that time regular breakthroughs towards formal considerations, they never explicitly formulated the requirement of formal validity and they were trying to define certainty by means of persuasiveness.

Conversely, Prabhācandra also shows that there are situations in which the three signs indeed qualify the evidence-property, and yet the evidence-property is not probative:

PKM.357.1-3. The three characteristics [described by Dignāga] should absolutely not define evidence, because they can be the case even when it is incorrect, as in “these fruits are ripe, because they bloom on one [and the same] branch, like this fruit [that is also ripe]”, as well as in “this Devadatta is stupid, because he is the son of this [man], like this other son of this [man] [who is also stupid]”.<sup>xx</sup>

The last argument<sup>xxi</sup> can be reconstructed as follow:

[Thesis] Devadatta is stupid

[Evidence] Because he is the son of this man

[Account] Whoever is the son of this man is stupid, like this other son of the same man

In this argument, the evidence-property is not probative, because lessen cognitive abilities can be due to other factors than genetic and educational ones linked to this precise man, as for example if oxygen was missing for too long a period in parts of the brain during childbirth. Such a cause of lessen cognitive abilities is accidentally and not essentially connected with the evidence-property, namely the fact of being a son of this man. Yet, the three marks of good inferential evidence are present:

- (i) Evidence-property (being the son of this man) is ascribed to the object (Devadatta)
- (ii) Evidence-property (being the son of this man) is ascribed to similar objects (another man has the same cognitive abilities and is also the son of this man)
- (iii) Evidence-property (being the son of this man) is not ascribed to dissimilar objects (no man of different cognitive abilities is the son of this man)

The traditional Buddhist reply to this attack consists in saying that in such an example, the third condition is not fulfilled, because it could perfectly be the case that someone with different cognitive abilities is the son of this man. What is new with Prabhācandra's attack is that he then uses the Buddhist defence to claim that this later equals to defend that what ultimately counts is that the evidence-property cannot be thought of otherwise than in the presence of the target-property and that therefore, Buddhist philosophers agree with the Jaina theory of impossibility otherwise as being ultimately the only relevant criteria for the correctness of evidence.

Noteworthy is the fact that Jaina philosophers go as far as to claim that sometimes, it is superfluous to state two members of inference, and that the statement of the impossibility to be otherwise only is sufficient for someone able to get all other required information from the context only.<sup>xxii</sup>

Actually, what the Jains really criticize when attacking the theory of the triple characteristic is the fact that in the evaluation process of the validity of evidence, no reference should be made to the case under consideration (*pakṣa*), similar cases (*sapakṣa*) and dissimilar cases (*vipakṣa*). This has been put forwards by Akalaṅka, who shows, first that there are valid inferences without similar and dissimilar cases, especially inferences whose subject is "all"; second, that there are valid inferences even without an abode, as in the case of the movement of the planet.<sup>xxiii</sup> This has been developed by Prabhācandra in his *Moon [that opens] the lotus of logic* (*nyāyakumudacandra*, NKC), another commentary he wrote on Akalaṅka's work.<sup>xxiv</sup> This shows an interesting focus from the Jaina side on the relationship between the inferential properties irrespectively of their context. In turn, this is explained by the fact that the context is being dealt with at other levels of analysis.

## 2.2. A perceptual-like grasp of universals named 'tarka'

A peculiar feature of the Jaina tradition is that the impossibility of the presence of the evidence-property otherwise than in the presence of the target-property, that is to say what is to be known in order to be assured that the two inferential properties are necessary co-present, is known by a separate cognitive process called 'tarka'. Tarka is a perceptual-like grasping of universals, that I suggest to translate as 'discernment of universals'.<sup>xxv</sup> In Māṅikyanandin's world:

PM.3.19. This (invariable concomitance) is ascertained by discernment of universals (*tarka*).<sup>xxvi</sup>

Knowing invariable concomitance by means of another cognitive process consists in transferring the question of the establishment of the validity of the evidence-property from the realm of inference and inferential rules, to a second-order realm. In the PKM, Prabhācandra

explains the functioning of the ‘discernment of universal’ device at the occasion of the refutation of the Cārvāka view according to which inference is not a source of knowing (*pramāṇa*).<sup>xxvii</sup> More precisely, the reconstructed Cārvāka position is that inference cannot be considered as a source of knowing, because its validity is not established. And this in turn is due to the fact that inference relies on knowledge of invariable concomitance and that this later cannot be known. To refute this view, Prabhācandra explains that:

PKM.178.16-18. It has been said that invariable concomitance (*vyāpti*) cannot be grasped by perception. This too is a mere (ineffective though true) statement. Invariable concomitance is based on a source of knowing called *ūha* (expression equivalent to ‘*tarka*’) that rests on the strength on perception (apprehension) and non-apprehension. Neither the infinity of individuals nor deviation in place and so on suffice to obstruct the acceptance of that (invariable concomitance).<sup>xxviii</sup>

First, it is clear that invariable concomitance cannot be known by perception, since perception deals only with particulars, and even the biggest list of particular instances would not suffice to reach certainty. What is more, we do perform inferences involving *remote* objects which cannot be perceived. Second, the following schemata makes it clear that invariable concomitance cannot be known by inference either, because it would lead to infinite regress:

$$\frac{\frac{[\dots]}{C, C \rightarrow (A \rightarrow B)}}{A, A \rightarrow B}}{B}$$

To explain, in order to infer B, it is necessary to know that both A and A→B are the case, where “A→B” represents the invariable concomitance between A and B. And if the fact that A→B is the case is known by means of another inference, then this second inference would also imply the knowledge of an invariable concomitance that would be known by means of another inference, and so on. In the Jaina tradition of Prabhācandra, this is not a problem, because the validity of inference can be established thanks to our ability to know invariable concomitance by the separate cognitive channel of discernment of universals.

Second, this discernment of universals ‘rests in the strength on apprehension and non-apprehension’. These apprehension and non-apprehension are not to be understood as the usual perception (respectively non-perception) of a particular. In order to understand the modalities of such a cognitive channel, let us go back to Prabhācandra’s text:

PKM.178.19-20. Invariable concomitance is ascertained with the help of the universal; the existence of that (the universal) is based on its being the object of reliable awareness of uniformity that has not been shown to be false.<sup>xxix</sup>

PKM. 179.19. It is knowledge of the whole class that is labeled otherwise as *ūha* (*tarka*).<sup>xxx</sup>

In other words, after stating that universals indeed exist, Prabhācandra explains that in a situation of co-presence of the two inferential properties, knowledge of invariable concomitance between them does not come from the apprehension of these two as particulars, nor from a mere repetition of these apprehensions, but it is the recognition of universal features in the two inferential properties. To quote Chakrabarty, this apprehension “is not merely observing things together [...]. Apprehension is realizing that if something with certain properties exists, something else with certain properties must also exist”.<sup>xxxii</sup> This discernment of universals can be conceived as a sign of a Jaina perspective in the sense that the possibility of knowing universals in a particular situation can be linked with the fact that the Jaina epistemological theory of particular-in-universal facilitates the epistemic access to one from the other. More precisely, a complex object is conceived as having both an existent universal aspect and an existent particular aspect. Therefore, in the same situation in which one grasps fire and smoke, one can also grasp ‘fireness’ and ‘smokeness’. It is important to notice that Jaina and Buddhist conceptions of universals are different ones and that Jaina philosophers consider a universal as a distinct type of real entity, and not as the mere conceptual exclusion of dissimilarities.

One gain of such a conception is that, since by means of discernment of universals, what is known is precisely the fact that smoke cannot be conceived without fire, no other knowledge is presupposed to establish a invariable concomitance, and no infinite regress is involved, like it was the case with the establishment of invariable concomitance by means of inference only. The possibility of this establishment without infinite regress thanks to discernment of universals is the pivotal point in a discussion with Dharmakīrti in his *Essay on knowledge*, PV.1.35 and 1.40, when he asks Jaina philosophers to explain the need of postulating an extra source of knowing when inference can serve well the same purpose.<sup>xxxiii</sup>

What is more, Prabhācandra insists on the fact that, like for any cognitive process, the discernment of universals presupposes that the epistemic agent should at least be in the ‘destruction-cum-subsistence’ (*kṣayopaśama*) state of awareness<sup>xxxiv</sup>, in which *karma*, the particles obstructing the inherent capacities of the soul have been partially removed. Yet, it seems that this special cognitive process requires more than the usual partial karma removing and that its very possibility is linked to the fact that Jain metaphysics allows for the soul to possess extra-mundane faculties by means of removing *karma*. And indeed, as pointed by Shah, the Jainas authors themselves were conscious of the difficulty to explain how discernment of universals can give us certitude, since in his *Investigation on knowledge* (*pramāṇamīmāṃsā*, PMī), Hemacandra (1088-1173) writes that:

PMī.36. At the time of knowing the invariable concomitance between two properties a man attains the status of a mystic.<sup>xxxv</sup>

This observation links the Jaina discernment of universals (*tarka*) with the Naiyāyika extraordinary perception called ‘*sāmānya-lakṣaṇa*’<sup>xxxv</sup>, as well as with the Yogic perception propounded by the Buddhist Prajñākaraḡuṡa.<sup>xxxvi</sup> This leads us to the problem of the means to establish the validity of the discernment of universals. The beginning of an answer to this question has already been indicated when we presented the discussion with the Buddhist, Cārvāka and Mīmāṡsaka, and is fully given by Prabhācandra when he states that:

PKM.352.19-22. If the agreement (reliability) of discernment of universals (*tarka*) is in doubt, how can there be inference that is free from doubt? In the absence of that how can it be proven that perception as a whole is reliable and separate it from what is not reliable? Therefore, one who wants inference to be doubt-free should admit a doubt-free source of knowing for the relation between the probans and the probandum.<sup>xxxvii</sup>

To conclude, the Jaina theory of discernment of universals that enables to know the one mark of evidence is a challenging one. One of its main consequences is the fact that it transfers the problem of induction to a second-order level. In turn, a consequence of this move is the fact that inferential rules are not falsifiable anymore.<sup>xxxviii</sup> But this also means that what ultimately grounds inference is a personal experience not subject to decision procedures in rational investigation and discussion.

### **3. Types of inferential evidence: the Jaina contribution<sup>xxxix</sup>**

#### **3.1. The ontic foundations for valid reasoning**

Although they do offer this external means to ground inference, Jaina philosophers also follow and propose amendments to Dharmakīrti’s attempt to tackle the question of the criteria of a good inference from an internal perspective. More precisely, we have seen that what Dignāga theory lacked in order to be able to evaluate the correctness of a invariable concomitance was a proper theory of relevant relationships between two properties. In order to achieve one, the Buddhist Dharmakīrti drops the second condition of the theory of the triple characteristic of evidence and accepts as good evidence only the ones that are “naturally” connected. In Katsura’s words, Dharmakīrti thus provides “the ontic foundation for valid reasoning”.<sup>xl</sup> In his theory, natural connections that enable inference are of two kinds: essential and causal.

To begin with, the first type of natural relation is the essential (*sva-bhāva*) relationship between a natural (pervaded) property and its pervasive property, the traditional example both in Buddhism and in Jainism being the relationship between “being a Sissoo-tree” and “being a tree”. This type of invariable concomitance defines a type of inferences related to class identity, which ensure absolute certainty since they are cases of analytic inclusion of a class within another. Dharmakīrti’s theory points the fact that it is not accidental that whenever there is a Sissoo tree, there is also a tree, this is due to the very nature of the tree.

Therefore, from the presence of a Sissoo, I am legitimize to infer the presence of a tree. Contrarily to this, if this object is a tree, I do not know if it is a Sissoo or another type of tree. Therefore this relation is not symmetric.

As for the second natural relation, it is the causal (*kārya-kāraṇa*, or *tad-utpatti*) relationship between an effect and its cause, for example between fire and smoke. From the presence of smoke on a remote hill full of tigers, I am legitimize to infer the presence of fire on it, even though I do not see this fire. This is also non-accidental, since it is due to the very nature of smoke, which is an effect of the fire. This cause-effect relationship is the canonical model for the presentation of an inference schemata. The popularity of this type of inference based on causality is due to the fact that it turns an inference into a scientific explanation, that is to say an investigation into the causes of a given phenomenon. For Dharmakīrti, this relation is not symmetric either, due to the fact that causal process might involve different temporal points, therefore speech on future events, like in the case of the emergence of a sprout from a seed. Indeed, if a soil is possessing a seed, I cannot be sure that it will be possessing a sprout, because we can never be sure that the two following pre-requisites are being fulfilled: (i) no impediment is blocking the potency of the given cause to produce its effect; (ii) all the conditions required for the production of the effect at stake are present.

Facing this theory, Jaina philosophers argue that much more kinds of evidence are to be granted. The first Jaina critic of Dharmakīrti was Akalaṅka, who got engaged with Buddhists in a discussion on the status of cause, predecessor and successor as correct evidence. In the tradition of Akalaṅka, Māṅikyanandin especially gives a comprehensive list of the types of inferential evidence granted in Jainism, when he writes in his *Introduction to philosophical investigation* that there are especially six situations in which the presence of an invariable concomitance is unquestionable, namely when the evidence-property is (i) a property pervaded (*vyāpya*) by the target-property; (ii) an effect (*kārya*) of it; (iii) a cause (*kāraṇa*) of it; (iv) a predecessor (*pūrvacara*) of it; (v) a successor (*uttaracara*) of it; or (vi) a co-existent (*sahacara*) of it. We are going to follow Māṅikyanandi's exposition.

The first divergence with Dharmakīrti is that the later considers that only the effect, and not the cause, can serve as evidence in a valid inference. As we have seen, the reason of this is that there might be impediments blocking this potency of the cause. Contrarily to this, Jaina philosophers recognise cause as correct inferential evidence, as in the following example:

PM.3.67. I know that there is shadow here, because there is an umbrella here.<sup>xli</sup>

In order to be legitimate to do so, Māṅikyanandin offers a more finely grained definition of a 'cause' as being what already consists of the totality of conditions for the emergence of the effect. In other words, as what already ensures the fact that the pre-requisite that nothing is blocking its potency is fulfilled. As for Dharmakīrti, a closer look on his texts, especially PVsV 1.7.1, reveals that, given appropriate restrictions, he also considers it possible to draw an inference in which a cause is used as good evidence, provided the fact that the conclusion

of the inference has the status of a potentiality, not that of an actuality. And that denying the status of inferential evidence to cause mainly pertained to refusing to talk about future events.

The second disagreement concerns worldly regularities. In this line, Jaina philosophers argue that two phenomena do not need to be essentially or causally related in order to be necessarily co-present. First, this can be the case between two co-present properties, for example between the taste and the colour of a fruit. Indeed, it is sufficient to know the colour of a fruit to infer its taste.<sup>xliii</sup> Second, this can be the case between two properties whose presence is separated by a time-interval, for example the order of apparition of the stars in the sky. Indeed, it is sufficient to know that the Pleiades are rising in order to know that Aldebaran will rise soon.<sup>xliiii</sup> And this is due to a worldly regularity by means of which the rising of the stars is something predictable.<sup>xliiv</sup>

In the first case, Buddhists disagree and argue that the taste and the colour of the mango are simply two properties that are both effects of the same stage of ripeness of the fruit. Therefore, this situation can be tracked back to causality and essence only.

The second case seems more robust to criticism, since neither essence, nor causality, seem fit to explain properties whose existence is separated by a time (discontinuous) interval, therefore Buddhist philosophers should not be able to rephrase this situation in terms of their acknowledge relationships and have to accept an extra category or to deny that the Pleiades-inference is a correct one. But here again, the Buddhists conception of causality is strong enough to enable them to argue that both rises of stars are co-effects of the same causal conditions, namely a given state of the sky.

It seems that this last divergence is the sign that Buddhist philosophers ground inference upon a necessary relation, whereas a universal relation is sufficient for the Naiyāyika and the Jaina conceptions. More precisely, predictions are possible and practical certainty is effective as a guideline for everyday life behavior, but this does not equal scientific certainty, which is more demanding. In this example, it is possible that the star Aldebaran disappears. As a consequence, the inference “Aldebaran will rise soon, because the Pleiades has just risen” would not be true anymore. On the contrary, no tree might exist anymore, it will not change the fact that if there is a Sissoo here, it is entirely impossible that there is no tree here. This inference remains true whatever the situation might be. In this discussion, it seems that only the link between a natural property and its object is a necessary one. This might explain the fact that Dharmakīrti rephrases the causal relation in terms of the essential relation, saying that the set of conditions enabling the presence of an effect is included in, is essentially connected to, the set of conditions enabling the presence of its cause. To come back to the main argument, it seems that Naiyāyika and Jaina philosophers are on the contrary not seeking necessity. I would like to suggest that whereas this is the case with Naiyāyika philosophers, Jaina thinkers do seek necessity, even if they do so on a different level, and that the reason of their acceptance of the regularity of worldly phenomena as sufficient grounds for inference is due to the fact that the regularity of worldly phenomena granted by Jaina philosophers is strong enough to ensure necessity even in these cases. More precisely, in the Jaina cosmogony, it is considered that after the universe is destroyed, it manifests itself again,

endures, is again destroyed, and so on in an infinite circle of manifestations. In this way, even if the Pleiades die, *their nature is such* that at the next manifestation of the universe, they will again be followed by Aldebaran. Hence, the presence of an invariable concomitance means that *in every context*, there is another accessible context in which the relationship between the two inferential properties holds. This is in this precise sense that the search for necessity does not invalidate inferences based upon worldly phenomena thanks to the regularity granted in Jain cosmology.

### 3.2. Non-apprehension and negative inferential statements

From a logical point of view, the next interesting step of these treatises is an introduction of negation, which renders more complex the conception of the characteristics of the relation that holds between inferential properties. We have already indicated that essential relations are asymmetric. This asymmetry is due to the fact that the two inferential properties do not have the same scope and that one is included in the other. For example, we can infer the presence of a tree from the presence of Sissoo, but not the reverse. In the case of causal relations, asymmetry is linked with the problem of the possibility to perform a speech on future events. For example, Dharmakīrti points out that we can infer the past presence of a seed from the actual presence of a sprout, but not the reverse. And Jaina philosophers insist on the fact that given appropriate restrictions, the reverse is possible, because we can infer the future presence of a sprout from the actual presence of all the conditions (and conditions of conditions) of its emergence, included the presence of a seed. Here, Jains have an external comprehensive – ‘God-eye’ – view, therefore non temporal, on the causal chain.

The introduction of negations affects this framework and comes from the observation that humans do not only want to infer presences and do not only infer from presences. Knowledge of absences also can have a place in the inferential process, may it be in the premises or in the conclusion. Therefore, the next step in a theory of inference is to study the impacts of knowledge of absences on the above mentioned discussion. One of these being the introduction of shifts. For example, psychological considerations aside, the situation described at the beginning of this paragraph is reversed. More precisely, it is possible to infer the absence of a Sissoo from the absence of a tree, but not the absence of a tree from the absence of a Sissoo. And it is possible to infer the absence of a sprout from the absence of a seed, but not the absence of a seed from the absence of a sprout (unless appropriate restrictions are introduced). Jaina philosophers might have been the first ones to tackle this issue and to offer a classification of types of evidence taking into account these shifts. Interestingly, they developed this through a side-way, since the departure point of these considerations is a criticism of Dharmakīrti’s conception of non-apprehension as a type of inferential evidence.

More precisely, Dharmakīrti introduced a third type of inferential evidence, named ‘non-apprehension’ (*anupalabdhi*). This type of evidence accounts for the fact that it is not

accidental that whenever there is no tree, there is also no Sissoo. Now, this type of evidence is not linked with a natural connection, contrarily to a natural property or an effect, which function as good evidence because they are linked to essential and causal connections. Yet, this type of evidence does ensure necessity, because it can be considered as a sub-type of the first two types of evidence, since it is a mere modification from them. When introducing non-apprehension as a type of evidence, Dharmakīrti's program is quite specific: he intends to prove the possibility of knowing absences from inference. This, in turns, enables him not to commit himself to the existence of a third kind of means of knowledge besides perception and inference. The main difference between Dharmakīrti's account and the Jaina one is that 'non-apprehension' is not listed by Jaina philosophers as good evidence, but as part of the general form the linguistic display of an inference might have. Indeed, Jaina philosophers inherit from Dharmakīrti's theory but not from its original problem, as Jains do not mind to posit extra sources of knowing. From this, they can restructure the theory and shape it in order to solve other problems. In such a way that by the time of Māṅikyanandin, non-apprehension is primarily conceived as a negative premise in the stated form of an inference. In other words, the Jaina focus is on non-apprehension as a negation, that is to say as a linguistic device usable to reverse the truth value of a sentence. This work on the relationship between negative (respectively affirmative) premises and negative (respectively affirmative) conclusions led them to single out four forms an inference might have, namely:

- (i) Affirmation of the thesis when compatible evidence is known (*aviruddha-upalabdhir vidhau*);
- (ii) Negation of the thesis when incompatible evidence is known (*viruddha-upalabdhiḥ pratiṣedhe*);
- (iii) Negation of the thesis when compatible evidence is not known (*aviruddha-anupalabdhiḥ pratiṣedhe*);
- (iv) Affirmation of the thesis when incompatible evidence is not known (*viruddha-anupalabdhir vidhau*).

And in each form, this is not the same set of types of evidence that is considered as prompting valid inferences. This is not the place to have a close look into this theory,<sup>xlv</sup> for the present purpose of a general survey of Jaina theories of inference, sufficient is to know that their focus is more and more on the linguistic form. For example, this led them to state a rule for imbricated cognitions, which equates to say that the invariable concomitance relation is transitive, when they say in PM.3.90 that “the pieces of evidence which arise one after the other should be included here (in this list)”.<sup>xlvi</sup>

## Conclusion

In conclusion, this theory of ontic foundations was introduced to give a method to be assured of the validity of an inference, and this *within the inferential process*. Although Jaina

philosophers do not need it, because they already grant the discernment of universal (*tarka*) as being a separate source of knowing enabling to establish the validity of an inference, they do consider it. This can first be explained by the fact that developing on this theory is a good occasion to understand better the precise functioning of the inferential process. Second, this can be explained by the fact that in the framework of philosophical disputations, it is important that the different traditions share a common set of tools.

What is more, after the adoption of the theory of ontic foundations by the different traditions, the core of logical analyses in the classical Indian hall of philosophical debates pertains to the following questions: what are the exact properties between which the invariable concomitance holds? And how are they naturally connected, that is to say which type of invariable concomitance does hold? Once these questions are answered, the deduction can go on. Obviously, the problem of an agreement on the decision procedures is still an open one, since philosophers still disagree on what can be called an 'effect', etc. of something. This is in this line that one of the greatest contribution of Jaina philosophers is made. More precisely, Jains argue that at this step, we can at least agree to disagree, and they offer a theory making explicit and legitimizing the divergences between the claims of the different traditions, by offering a theory of parameterization of assertions, both at the epistemic and ontological level. This is especially developed in the theory of angles of analysis (*nikṣepavāda*) and in the theory of viewpoints (*nayavāda*). This paper is not the place to describe these approaches to context. What is interesting to notice is that the same Jaina traits are present both in these and in their theory of inference, first a Jaina insistence on linguistic considerations; second, a belief in the underlying rationality of the world; and third, a belief in the possibility of an all-comprehensive perspective, which is connected to a will to exhaustivity in their classifications.

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- PMī Hemacandra's *Pramāṇamīmāṃsā*. Edited and translated by Satkari Mookerjee in collaboration with Nathmal Tatia. Varanasi: Tara Publications. *Prachya Bharati Series* 11, 1970.

- PNT Vādi Devasūri's *Pramāṇanayatattvālokālaṅkāra*. Translated by Hari Satya Bhattacharya. Bombay: Jain Sahitya Vikas Mandal, 1967.
- PV<sub>1</sub> & PVsV<sub>1</sub> Dharmakīrti's *Pramāṇavārttika* and *Pramāṇavārttikasvavṛtti*. Chapter 1 edited by Raniero Gnoli. Roma: Istituto Italiano per il media et Extremo Orient, 1960 (Series Orientale Roma 23).
- PV<sub>2</sub> & PVsV<sub>2</sub> Dharmakīrti's *Pramāṇavārttika* and *Pramāṇavārttikasvavṛtti*. Chapter 1, v.1-10 translated by Brendan Gillon & Richard Hayes. In: "Introduction to Dharmakīrti's Theory of Inference as Presented in *Pramāṇavārttikasvopajñavṛtti* 1-10." *Journal of Indian Philosophy* 19 (1991) 1-73.
- PV<sub>4</sub> & PVsV<sub>4</sub> Dharmakīrti's *Pramāṇavārttika* and *Pramāṇavārttikasvavṛtti*. Chapter 4 translated by Tom J.F. Tillemans. Wien: Verlag des Österreichischen Akademie des Wissenschaften, 2000.
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- NKC Prabhācandra's *Nyāyakumudacandra. A commentary on Bhaṭṭākalaṅkadeva's Laghīyastraya*. Edited by Mahendra Nyayacarya. Bombay: Manikacandra Digambara Jaina Granthamālā 38-9, vol.1: 1938, vol.2: 1941 (2nd edition Delhi: Sri Satguru Publications, 1991).
- NM Jayanta Bhaṭṭa's *Nyāyamañjarī*. Edited by Sūrya Nārāyaṇa Śukla. In *Kashi Sanskrit Series* 106. Benares: Chowkhamba Sanskrit Series Office, 1936.
- NS Gautama's *Nyāyasūtra with the Bhāṣya of Vātsyāyana and the Vārtika of Uddyotakara*. Translated by Gaṅgānāṭha Jhā in 4 vols. Delhi: Motilal Banarsidass, 1984 (first edition in *Indian Thought* 1912-1919).

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## Notes

- <sup>i</sup> This translation of ‘pramāṇa’ is found in Kisor Kumar Chakrabarti, *Classical Indian Philosophy of Induction. The Nyāya viewpoint* (Maryland: Lexington Books, 2010), p. 2ff.
- <sup>ii</sup> Krishna Kumar Dixit, *Jaina Ontology (Lalbai Dalpatbhai Series 31, Ahmedabad: L.D.Institute of Indology, 1971)*, p. 143.
- <sup>iii</sup> NS.1.1.32: *Pratijñā-hetu-udāharaṇa-upanaya-nigamanāny avayavāḥ*. Edited on the Göttingen Register of Electronic Texts in Indian Languages. See also Gaṅgānātha Jhā, *The Nyāyasūtra of Gautama with the Bhāṣya of Vātsyāyana and the Vārtika of Uddyotakara I* (Delhi: Motilal Banarsidass, 1984), p. 355.
- <sup>iv</sup> Unless stated otherwise, all translations are from the author.
- <sup>v</sup> This example is the same as the one put forwards by the Naiyāyika tradition, see for example the *Nyāyasūtrabhāṣya* of Vātsyāyana (450-500) in Jhā, *Nyāyasūtra I*, p. 360.
- <sup>vi</sup> PM.3.65: *pariṇāmī śabdaḥ kṛtakatvāt. ya evaṃ sa evaṃ dṛṣṭo yathā ghaṭaḥ. kṛtakaś ca ayaṃ tasmāt pariṇāmī iti*. Edited in S. C. Ghoshal, *The Parīkṣāmukham of Māṇikyanandin* (Lucknow: The Central Jaina Publishing House, 1940), p. 127.
- <sup>vii</sup> NS.5.2.12: *hīnam anyatamena apy avayavena nyūnam*. In Jhā, *Nyāyasūtra IV*, p. 1757.
- <sup>viii</sup> See NA.14-20. Piotr Balcerowicz, *Jaina epistemology in historical and comparative perspective I* (Delhi: Motilal Banarsidass, 2008), pp. 59-64.
- <sup>ix</sup> PM.3.46: *bāla-vyutpatty-arthaṃ tat-traya-upagame śāstra eva asau na vāde, anupayogāt*. Edited in Ghoshal, *Parīkṣāmukham*, p. 111.
- <sup>x</sup> PV.4.15: *hetv-artha-viśayatvena tad-aśakta-uktir īritā*. PVBh.488.5-6: *asmākaṃ tu yo ’numeya-nirdeśaḥ sa hetv-artha-viśayatvena na sādhanatvena*. Translation from Tom J.F. Tillemans, *Dharmakīrti’s Pramāṇavārttika and Pramāṇavārttikasvavṛtti* (Wien: Verlag des Österreichischen Akademie des Wissenschaften, 2000), p. 30.
- <sup>xi</sup> NA.14-16: *tat-prayogo’tra kartavayo hetor gocara-dīpakaḥ. anyathā vādy-abhipreta-hetu-gocara-mohinaḥ, pratyāyyasya bhavedd hetur viruddha-ārekito yathā. dhānuṣka-guṇa-samprekṣi-janasya parividhyataḥ, dhānuṣkasya vinā lakṣya-nirdeśena guṇa-itarau*. Translation from Balcerowicz, *Jaina epistemology I*, pp. 59-60.
- <sup>xii</sup> It is hard to understand why, in the Jaina criticism, a failure to recognize that the *target-property* is ascribed to the case under consideration is an impediment to know that the *evidence-property* is ascribed to it. A hypothesis is that in an inferential process, scopes have to be exact. In this example, we are not merely talking about sound, but about sound *as characterized* by being permanent, precisely because what matters to ensure necessity is not being sound, but being permanent.
- <sup>xiii</sup> Nagin J. Shah, *Akalaṅka’s Criticism of Dharmakīrti Philosophy* (Ahmedabad: L.D. Institute of Indology, 1967), p. 282; and Satkari Mookerjee, *The Buddhist philosophy of universal flux* (University of Calcutta, 1935), p. 364.
- <sup>xiv</sup> This Sanskrit expression means “pervasion”. But since it does not concern only cases of pervasion, it has been translated as a technical logical term by Indianists as “invariable concomitance” in order to refer to the more general situation in which whenever one member of this relations is present, the other member is present too.

- <sup>xv</sup> PM.3.15: *sādhyā-avinābhāvitvena niścito hetuḥ*. Edited in Ghoshal, *Parīkṣāmukham*, p. 91.
- <sup>xvi</sup> Piotr Balcerowicz, “Is ‘inexplicability otherwise’ (*anyathānupapatti*) otherwise inexplicable?” (*Journal of Indian Philosophy* 31, 2003), p. 343.
- <sup>xvii</sup> “The statements of credible persons are inference insofar as they have the common character of not being false: present in the object of inference and in what is similar to it, and absent in their absence” (*āpta-vākyā-visaṃvāda-sāmānyād anumānatā anumāne ’tha tat-tulye sad-bhāvo na astita asati*). English translation in Richard P. Hayes, *Dignāga on the interpretation of signs* (*Studies in classical India* 9, Dordrecht: Kluwer, 1988), p. 238.
- <sup>xviii</sup> See for example Jayanta Bhaṭṭa’s *Nyāyamañjarī* 101.8-10: *tac ca pañca-lakṣaṇam, kāni punaḥ pañca-lakṣaṇāni, (i) pakṣadharmatvaṃ (ii) sapakṣa-dharmatvaṃ (iii) vipakṣa-ādya-avṛttir (iv) abādhitā-viṣayatvam (v) asat-pratipakṣatvaṃ ca iti*. Edited in Sūrya Nārāyaṇa Śukla, *Jayanta Bhaṭṭa’s Nyāyamañjarī* (*Kashi Sanskrit Series* 106, Benares: Chowkhamba Sanskrit Series Office, 1936), p. 101.
- <sup>xix</sup> PKM.355.2-3: [...] *sapakṣe sattva-rahitasya ca śrāvaṇatva-ādeḥ śabda-anityatve sādhye gamakatva-pratīteḥ*. Edited in Mahendra Kumar Shastri, *Prameyakamalamārtaṇḍa by Prabhācandra* (Delhi: Sri Satguru Publication, *Garib Dass Oriental Series* 94, 1912), p. 355.
- <sup>xx</sup> PKM.357.1-3: *nanu trairūpyaṃ hetor-lakṣaṇam mā bhūt “pakvāny etāni phalāny eka-śākhā-prabhvatvād upayukta-phalavat” ity ādau “mūrkhā-ayaṃ devadattas tat-putratvād itara tat-putravat” ity ādau ca tad-ābhāse api tat-sambhavāt*. Edited in Shastri, *Prameyakamalamārtaṇḍa*, p. 357.
- <sup>xxi</sup> As similar example is used by Vādi Devasūri “He has a swarthy complexion, because he is his son. Whoever is his son has a swarthy complexion, like this other son of him.” Translated in Hari Satya Bhattacharya, *Vādi Devasūri’s Pramāṇanayatattvālokālaṃkāra* (Bombay: Jain Sahitya Vikas Mandal, 1967), p. 196. Hemacandra also uses the swarthy complexion argument in PMī.2.33: *trairūpye tu saty apy avinābhāva-abhave hetor agamakatva-darśanāt, yathā sa śyāmo maitra-tanayatvāt itara-maitre-putravat ity atra*. Edition and translation in Satkari Mookerjee, *Hemacandra’s Pramāṇamīmāṃsā* (Varanasi: Tara Publications. *Prachya Bharati Series* 11, 1970), p. 45 and p. 101.
- <sup>xxii</sup> PM.3.94. The practice of those who are conversant is to use only the impossibility otherwise or the necessity thus (*vyutpanna-prayogas tu tathā upapattiyā ’nyathā-anupapattiyā eva*). Ghoshal, *Parīkṣāmukham*, p. 136.
- <sup>xxiii</sup> For a detailed presentation of this discussion, see Shah, *Akalaṅka and Dharmakīrti*, p. 267.
- <sup>xxiv</sup> NKC.2.440: Therefore, being present in the case under consideration is not part of what proves that the evidence [is a valid one] (*tan na pakṣa-dharmatvaṃ hetor gamakatva-aṅgam*). Edited in Mahendra Nyayacarya, *Prabhācandra’s Nyāyakumudacandra. A commentary on Bhaṭṭākalāṅkadeva’s Laghīyastraya* (Delhi: Sri Satguru Publications, 1991).
- <sup>xxv</sup> Tarka is a technical term of the Nyāya school. It is referring to suppositional knowledge. We should therefore be cautious and keep in mind that Jaina philosophers take it in another meaning, although this borrowing is also witnessing a will to refer to the Naiyāyika tradition.
- <sup>xxvi</sup> PM.3.19: *tarkāt tan-nirṇayaḥ*, where ‘tan’ refers to ‘avinābhāvaḥ’. Edited in Ghoshal, *Parīkṣāmukham*, p. 93.

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<sup>xxvii</sup> Prabhācandra also discusses the possibility to know the necessary relationship between two inferential properties by means of the discernment of universals in PKM.159-172, at the occasion of a dispute with the Mīmāṃsā view. In this passage, Prabhācandra is aiming at showing that truth can be firmly established by perception and inference. Shastri, *Prameyakamalamārtaṇḍa*, p. 159-172.

<sup>xxviii</sup> PKM.178.16-18: *yat ca uktam na ca vyāpti-grahaṇam adhyakṣataḥ iti ādih tadā api uktim atram, vyāpteḥ pratyakṣa-anupalambha-bala-udbhūta-ūha-ākhyā-pramāṇāt prasiddheḥ. na ca vyaktīnām ānantiyaṃ deśa-ādi-vyabhicāro vā tat-prasiddher bādhaḥ*. Edited in Shastri, *Prameyakamalamārtaṇḍa*, p. 178. Translation based on the translation of Kisor Kumar Chakrabarti, *Classical Indian Philosophy of Induction. The Nyāya viewpoint* (Maryland: Lexington Books, 2010), p. 268.

<sup>xxix</sup> PKM.178.19-20: *sāmānya-dvāreṇa pratibandha-avadhāraṇāt tasya ca anugatā 'bādhitā-pratyaya-viśayatvād astitvam*. See Shastri, *Prameyakamalamārtaṇḍa*, p. 178; as well as Chakrabarty, *Induction*, p. 268.

<sup>xxx</sup> PKM. 179.19: *sarva-upasamhāreṇa pratipattiś ca nāma-āntareṇa ūha eva uktaḥ syāt* See Shastri, *Prameyakamalamārtaṇḍa*, p. 179; as well as Chakrabarty, *Induction*, p. 269.

<sup>xxxi</sup> Chakrabarty, *Induction*, p. 274.

<sup>xxxii</sup> PKM.350.7-12. See Shastri, *Prameyakamalamārtaṇḍa*, p. 350; as well as Piotr Balcerowicz, Piotr and Karl H. Potter, *Encyclopedia of Indian philosophies 14: Jaina philosophy part 2* (Delhi: Motilal Banarsidass, 2013), p. 154.

<sup>xxxiii</sup> Prabhācandra's commentary on PM.2.10. See Shastri, *Prameyakamalamārtaṇḍa*, p. 340 ff; as well as Balcerowicz and Potter, *Encyclopedia Jaina philosophy 2*, 2013), p. 132.

<sup>xxxiv</sup> PM.36: *tasya api vyāpti-grahaṇa-kāle yogī iva pramātā sampadyata iti*. Shah, *Akalaṅka and Dharmakīrti*, p. 262.

<sup>xxxv</sup> Sitansusekhar Bagchi, *Inductive reasoning. A study of tarka and its role in Indian logic* (Calcutta Oriental Press Ltd, 1953), p. 1.

<sup>xxxvi</sup> Shah, *Akalaṅka and Dharmakīrti*, p. 263.

<sup>xxxvii</sup> PKM.352.19-22: *tarkasya saṃvāda-sandehe hi kathaṃ nissandeha-anumāna-utthānam? tad-abhāve ca kathaṃ sāmastyena pratyakṣasya aprāmāṇya-vyavacchedena prāmāṇya-prasiddhiḥ? tato nissandeham anumānam icchatā sādhyā-sādhana-sambandha-grāhi pramāṇam asandigdham eva abhyupagantavyam*. See Shastri, *Prameyakamalamārtaṇḍa*, p. 352; as well as Chakrabarty, *Induction*, p. 272.

<sup>xxxviii</sup> This fact has also been noticed by Balcerowicz, *Inexplicability otherwise*, p. 360.

<sup>xxxix</sup> This section is a summary of two papers of the author. Marie-Hélène Gorisse, "The taste of the mango. A Jaina-Buddhist controversy on evidence" (*International Journal of Jaina Studies* 11/3, 2015), p. 1-19; and Marie-Hélène Gorisse, "Jaina conceptions of non-cognition: A dialogue with Dharmakīrti on inferential evidence" (submitted in the proceedings of the Fifth Dharmakīrti Conference held in Heidelberg 25-30 August 2014, forthcoming).

<sup>xl</sup> Shoryu Katsura, "Dignāga and Dharmakīrti on *adarśanamātram* and *anupalabdhi*" (*Asiatische studien/études asiatiques* 47, Zurich: Zeitschrift der Schweizerischen Asiengesellschaft/Revue de la société Suisse, 1992), p. 223.

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<sup>xli</sup> PM.3.67: *asty atra chāyā chatrāt*. Edited in Ghoshal, *Parīkṣāmukham*, p. 128.

<sup>xlii</sup> PM. 3.70: *asty atra mātuliṅge rūpaṃ rasāt*. Edited in Ghoshal, *Parīkṣāmukham*, p. 129.

<sup>xliii</sup> PM. 3.68. *udeṣyati śakaṭaṃ kṛttikā-udayāt*. Edited in Ghoshal, *Parīkṣāmukham*, p. 128.

<sup>xliv</sup> According to Shah, these examples on the taste of a mango and on the Pleiades to criticize Dharmakīrti are also used by the Naiyāyika Jayanta Bhaṭṭa (840-900) in his *Nyāyamañjarī*. Shah, *Akalaṅka and Dharmakīrti*, p. 257.

<sup>xlv</sup> For a thorough analysis of each of these inferential situations, see Marie-Hélène Gorisse, *Jaina non-cognition*, forthcoming.

<sup>xlvi</sup> PM.3.90: *paraṃ-parayā sambhavat sādhanam atra eva antarbhāvanīyaṃ*. Edited in Ghoshal, *Parīkṣāmukham*, p. 135.